

5.11 TRAFFIC AND TRANSPORTATION

The Project includes the construction, operation, maintenance, and abandonment of up to 850 megawatts (MW) of capacity by a solar power generating facility and its ancillary systems in two phases (Phase I: 500MW [approximately 5,838 acres]/Phase II 350MW [approximately 2,392 acres]). The Project will consist of up to approximately 34,000 SunCatchers. Construction is anticipated to occur over an approximate four-year period beginning in 2010 and ending in 2014. It is estimated that approximately an average of 400 construction and 180 long-term labor jobs will be required.

The Project is located in an undeveloped area of San Bernardino County, California approximately 37 miles east of Barstow, California and north of Interstate 40 (I-40) between approximately 1,925 to 3,050 feet above mean sea level. The Project is located primarily on Bureau of Land Management (BLM) land within the Barstow Field Office. Approval of the Project Right-of-Way (ROW) Grant Application (Form 299, Applications CACA 49539 and 49537) will result in the issuance of a ROW Grant Permit for use of federal lands administered by the BLM. The Project would require a plan amendment to the 1980 California Desert Conservation Area (CDCA) Plan.

The area where the Project would be constructed is primarily open, undeveloped land within the Mojave Desert. The Cady Mountain Wilderness Study Area (WSA) is located north of the Solar One site. The Pisgah Crater, within the BLM-designated Pisgah Area of Critical Environmental Concern (ACEC), is located south and east of the Project (south of I-40 by several miles). Several underground and above ground utilities traverse the area as well.

An approved interconnection letter from California Independent Service Operator (CAISO) has been issued for the Project. The associated System Impact Study (SIS) is located in Appendix H. The SIS indicates that additional upgrades to the Southern California Edison (SCE) Lugo-Pisgah No. 2 Transmission Line and upgrades at the SCE Pisgah Substation will be required for the full build out of the 850MW Project. Supplemental studies performed by SCE and CAISO indicate that capacity is available on the existing transmission system to accommodate less than the 850MW Project.

An on-site substation (i.e., Solar One Substation [approximately 3 acres]) will be constructed to deliver the electrical power generated by the Project to the SCE Pisgah Substation. Approximately twelve to fifteen 220kV transmission line structures (90 to 110 feet tall) would be required to make the interconnection from the Solar One Substation to the SCE Pisgah Substation. All of these structures would be constructed within the Project Site.

The Project will include a centrally located Main Services Complex (14.4 acres) that includes three SunCatcher assembly buildings, administrative offices, operations control room, maintenance facilities, and a water treatment complex including a water treatment structure, raw water storage tank, demineralized water storage tank, basins, and potable water tank.

Adjacent to the Main Services Complex, a 14-acre temporary construction laydown area will be developed and an approximately 6-acre construction laydown area will be provided adjacent to the Satellite Services Complex south of the Burlington Northern Santa Fe (BNSF) railroad. Two additional construction laydown areas (26 acres each) one will be located at the south entrance off Hector Road and the other at the east entrance just north of the SCE Pisgah Substation.

Temporary construction site access would be provided off of I-40 beginning east of the SCE Pisgah Substation and would traverse approximately 3.5 miles across the Pisgah ACEC requiring an approximate 30-foot ROW. Long-term permanent access would be provided by a bridge over the BSNF railroad along Hector Road north of I-40. Equipment may be transported during construction via trucks and/or rail car (through the construction of a siding), that would be located on the north side of BNSF railroad and east of Hector Road or as authorized by BNSF.

Water would be provided via a groundwater well located on a portion of the BLM ROW north of the Main Services Complex and transported through an underground pipeline. The expected average well water consumption for the Project during construction is approximately 50 acre-feet per year. Under normal operation (inclusive of mirror cleaning, dust control, and potable water usage), water required will be approximately 36.2 acre-feet per year. Emergency water may be trucked in from local municipalities.

The following section assesses traffic and transportation effects associated with the construction and operation of the Project and its ancillary facilities. The traffic and transportation analysis primarily examines effects on roadway intersection and circulation system levels of service (LOSs) within the Project study area during construction and operation of the Project.

This section also identifies and reviews applicable laws, ordinances, regulations, and standards (LORS) relevant to traffic and transportation activities.

Information sources include data collected from the California Department of Transportation (Caltrans) traffic count database; new roadway and intersection turning movement counts collected in November 2008; field review and observations; and communications with local, regional, and federal level agencies. URS Corporation staff performed study area reconnaissance in 28 October 2008 to document baseline roadway characteristics, identify physical constraints, and assess general traffic conditions within the Project study area.

5.11.1 Affected Environment

5.11.1.1 Regional Setting

The affected environment relative to the Project is discussed in both regional and local context. The regional setting includes the existing and planned public and private roads, rail lines, and pipelines considered in the transportation effects analysis. Figure 5.11-1, Regional Transportation Setting, depicts the affected environment as discussed below and illustrates the relationship of the Project to local and major roads and highways in the Project study area. Figures 5.11-2, Transportation Setting of the Local Project Area and Affected Roadways, depicts the location of the Project study area.

The following plans and programs describe the framework for managing the transportation resources in the Project study area.

Southern California Association of Governments Regional Transportation Plan

The Southern California Association of Governments (SCAG) is the designated Metropolitan Planning Organization for the six county SCAG Region comprising the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The SCAG is mandated by the federal government to research and draw up plans for transportation, growth management,

hazardous waste management, and air quality. The Adopted 2004 Regional Transportation Plan, also known as Destination 2030, is a multi-modal plan representing SCAG's vision for a better transportation system, integrated with the best possible growth pattern for the region. The 2004 Regional Transportation Plan presents an assessment of the overall growth and economic trends in the SCAG region for the 2030 Planning Horizon Year and provides strategic direction for investments during this time period.

San Bernardino County General Plan Circulation and Infrastructure Element

The San Bernardino County General Plan is the master "blueprint" for the way county residents, county officials, and planning staff would like to see San Bernardino County grow and develop. The Circulation and Infrastructure Element of the County General Plan outline the goals and policies for the county's infrastructure and transportation and circulation system.

San Bernardino County Non-Motorized Transportation Plan

The San Bernardino County Non-motorized Transportation Plan was created to coordinate and guide the provision of bicycle-related plans, programs, and projects within the County. It deals primarily with bicycle and pedestrian use by residents for recreational and commuting purposes. This plan was most recently updated in 2001 by the San Bernardino Association of Governments (SANBAG) and to develop a more comprehensive approach toward future planning and construction activities with regard to bicycle and pedestrian infrastructure.

5.11.1.2 Highways and Roadways

The transportation network within the Project study area is composed of a mix of interstate, county highways, and local roadways. The circulation system plays a major role in the movement of goods originating from both interstate and international sources. The agricultural communities in San Bernardino County rely on the state and county roadways for access as well recreational and tourist oriented trips on public land. This trend and use of the transportation network will continue as new developments occur within San Bernardino County as well as the surrounding communities.

As illustrated on Figure 5.11-1, Regional Transportation Setting, the Project study area is primarily served by Interstate 40 to the south which connects San Bernardino County from the west and Arizona to the east and beyond to the continental United States.

Existing roadways serving the Project Area are relatively straight and the terrain is flat to moderate with adequate sight distance for opposite traffic. No sharp curves or steep grades exist on the regional and local circulation network serving the Project Site.

Regional Roadway Facilities**Interstate 40**

I-40 is an east-west interstate freeway located south of the Project Site. It originates from the west at the Interstate-15 interchange in the City of Barstow in San Bernardino County and heads east towards Arizona and continental US. Traffic generated by the Project is expected to rely mainly on I-40 as their major access road. I-40 has four through lanes (two through lanes in each direction) with 6 feet of shoulder on both sides and a wide center median. It is posted at 70 miles per hour (mph) in the vicinity of the site. The existing average daily traffic (ADT) near the vicinity of the Project Site is 15,600 vehicles per day with 43 percent truck traffic. Access to the Project from I-40 will be provided via existing freeway ramp connections at Hector Road.

National Trails Highway (Historic Route 66)

Historic Route 66 is an east-west two-lane highway located south of the Project Site and running parallel to I-40. Historic Route 66 was an important highway serving local communities and the travelers prior to the construction of I-40. The existing average daily traffic (ADT) near the vicinity of the project site is 28 vehicles per day. Historic Route 66 functions as a collector road within the project study area.

Local Roadway Facilities

The primary north-south roadway that provides access to and from the Project Site is Hector Road. Local roadway characteristics are briefly described below. Figure 5.11-2, Transportation Setting of the Local Project Area and Affected Roadways, shows the roadway circulation network in the Project vicinity.

Hector Road

Hector Road is a north-south local road that currently serves as the primary access to the Project Site. It starts at Historic Route 66 just south of the I-40 interchange and continues north towards the Project Site. The existing average daily traffic (ADT) near the vicinity of the Project Site is 31 vehicles per day. The roadway segment north of the interchange is currently unpaved, while the northbound and southbound approach at the double-track BNSF at-grade railroad crossing is newly improved with asphalt surface aprons. The Hector Road rail crossing is currently gated on both the northbound and southbound approaches.

5.11.1.3 Railroads

An existing double-track railroad line currently operates through the Project Site. The railroad is owned by the BNSF. The current at-grade crossing at Hector is gated and locked. This access controlled at-grade rail crossing is maintained by BNSF.

5.11.1.4 Pipelines

There are existing natural gas pipelines that go through the Project Area, but none are planned to be used for the Project.

5.11.1.5 Bicycle Routes and Pedestrian Circulation

According to the San Bernardino County Non-motorized Transportation Plan, the recommended design and operating standards for the San Bernardino Bikeway System follow the Caltrans guidelines as described in Chapter 1000, Bikeway Planning and Design of the Caltrans Design Manual. The Caltrans standards provide the primary basis for the design recommendations that follow.

- Class I (Shared Use Path): A bikeway physically separated from a street or highway. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users.
- Class II (Bike Lane): A portion of roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.
- Class III (Bikeway): A generic term for any road, street, path, or way that in some manner is specifically designated for bicycle travel regardless of whether such facilities are designated for the exclusive use of bicycles, or are to be shared with other transportation modes.
- Signed Shared Roadway or Signed Bike Route: A shared roadway that has been designated by signing as a preferred route for bicycle use. These are Class III facilities under the Caltrans Design Standards.

The County bicycle facilities are described in greater detail in the San Bernardino County Non-motorized Transportation Plan. The traffic and circulation review found no bicycle amenities within the immediate vicinity of the Project study area.

Pedestrian circulation networks are mainly associated with existing roads that have sidewalks. In the absence of curbs, gutters, or sidewalks, pedestrian circulation and local foot traffic generally use the ROW easements along the edges of paved streets. The traffic and circulation review found no pedestrian activity within the immediate vicinity of the Project study area.

5.11.1.6 Airports

The following lists airports identified near the Project Site, and includes their approximate distances in relation to it:

- Barstow-Dagget Municipal Airport (DAG) – approximately 19 miles or 100,320 feet west of the Project Site,
- Twentynine Palms EAF Airport (NXP) – approximately 32 miles or 168,960 feet southeast of the Project Site, and
- Bicycle Lake Army Airfield (BYS) – approximately 34 miles or 179,520 feet northwest of the Project Site.

These airports are beyond the 20,000 foot horizontal distance criteria to warrant Federal Aviation Administration (FAA) notification requirements. See also Section 5.9, Land Use, and Section 5.13, Visual Resources, for more information on FAA compliance.

5.11.1.7 Level of Service Concept

LOS is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F. These categories can be viewed much like school grades, with A representing the best traffic flow conditions and F representing poor conditions. LOS A indicates free-flowing traffic, and LOS F indicates substantial congestion with stop-and-go traffic and long delays at intersections.

Table 5.11-1, Level of Service Designations for Signalized and Unsignalized Intersections, describes the LOS performance designations for signalized and unsignalized intersections.

Table 5.11-1
Level of Service Designations for Signalized and Unsignalized Intersections

Description of Operation	Signalized Intersection Delay (seconds per vehicle)	Stop-Controlled Intersection Delay (seconds per vehicle)
LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	<10.0	<10.0
LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	10.1 – 20.0	10.1 – 15.0
LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.1 – 35.0	15.1 – 25.0
LOS D describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.	35.1 – 55.0	25.1 – 35.0
LOS E is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.	55.1 – 80.0	35.1 – 50.0
LOS F describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.	>80.0	>50.0

Source: Transportation Research Board, 2000.

Notes:

< = less than

> = greater than

LOS = level of service

Table 5.11-2, Freeway Level of Service Designations, shows the LOS performance designations for freeway segments. It must be noted that Caltrans does not have a freeway segment analysis procedure to evaluate freeway segments based on average daily traffic (ADT). An alternative

procedure, the Florida Department of Transportation LOS tables (referred to as Modified Highway Capacity Manual LOS Tables), shown below, were developed specifically for analyzing highway segments and have been used extensively in California to evaluate freeway segments. Table 5.11-2, Freeway Level of Service Designations, shows the desired maximum two-way ADT values and the corresponding freeway LOS.

Table 5.11-2
Freeway Level of Service Designations

Roadway Classification	Number of Lanes	LOS A (vehicles/day)	LOS B (vehicles/day)	LOS C (vehicles/day)	LOS D (vehicles/day)	LOS E (vehicles/day)
Freeway	4	21,400	33,700	50,500	64,300	76,500
Freeway	6	32,900	51,700	77,600	98,700	117,500
Freeway	8	44,900	70,600	105,900	134,800	160,500
Freeway	10	56,200	88,300	132,400	168,500	200,600

Source: Florida Department of Transportation, 2002, updated 2003.

Note:

LOS = level of service

Segment Level of Service (LOS) standards and thresholds provide the basis for analysis of arterial roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes. The roadway capacity standards were based on the San Bernardino County Congestion Management Program (CMP) and adopted for use in the traffic study for the Project. The capacities shown in Table 5.11-3 reflect the generalized peak hour/peak direction level of service maximum volumes that can be reasonably carried on the roadway under prevailing traffic conditions.

Table 5.11-3
Generalized Peak Hourly/Directional Capacities

Roadway Section		Level of Service				
Lanes	Cross-section	A	B	C	D	E
2	Undivided	490	740	790	830	870
4	Divided	1080	1610	1680	1760	1850
6	Divided	1680	2450	2530	2650	2770
2	Divided + (Left Turn)	515	777	830	872	914
2	Divided (No Left)	417	629	672	706	740
4	Undivided + (Left)	1026	1530	1596	1672	1758
6	Undivided + (Left)	1596	2328	2404	2518	2632

Source: San Bernardino CMP, 2003 Update.

5.11.1.8 Existing Traffic Conditions

As mentioned earlier, the Project will be located on the northwest quadrant of I-40 and the Pisgah substation in San Bernardino County, California. The regional vicinity map of the Project within the surrounding region is depicted on Figure 5.11-1, Regional Transportation Setting. The Project location, including major roads, local streets, and highways in the immediate vicinity of the Project are illustrated on Figures 5.11-2A through 5.11-2B, Transportation Setting of the Local Project Area and Affected Roadways. The existing geometric configuration of roadway segments and intersections in the vicinity of the Project Site are shown on Figure 5.11-3, Existing Intersection Geometrics. The existing traffic volumes in the vicinity of the Project are shown on Figure 5.11-4, Existing Traffic Volumes (AM/PM Peak Hour). The existing traffic volumes are based on traffic counts conducted by National Data Services in November 6, 2008. The roadway segment and intersection turning movement counts are included in Appendix BB, Traffic Counts.

Existing Roadway Level of Service

As shown in Table 5.11-4, Existing Roadway Level of Service, all traffic study roadway segments currently operate at LOS B or better under existing conditions.

**Table 5.11-4
Existing Roadway Level of Service**

Roadway	Location	Classification	Traffic Volumes	Truck Percent of ADT	LOS
I-40	West of Hector Road	Freeway	14,500 ¹	43 ³	B ⁴
I-40	East of Hector Road	Freeway	15,600 ¹	43 ³	B ⁴
Hector Road	North of I-40	Local	1/1 ²	--	A ⁵
Hector Road	South of I-40	Collector	2/6 ²	--	A ⁵
National Trails Highway	West of Hector Road	Collector	2/1 ²	--	A ⁵
National Trails Highway	East of Hector Road	Collector	0/6 ²	--	A ⁵
BLM Access Road	North of I-40	Local	N/A	N/A	N/A

Source: URS Corporation, 2008.

Notes:

¹ADT Volumes. Source: 2007 Traffic Volumes (Caltrans, 2008a).

²AM/PM Volumes (Higher Volume between Northbound and Southbound Direction). Source: National Data Services, 2008a.

³Source: 2007 Truck Volumes (Caltrans, 2008b).

⁴ADT LOS.

⁵Peak Hour LOS.

⁶Peak Hour LOS is based on Table 5.11-3, San Bernardino County CMP, 2003 Update.

-- = not available

ADT = average daily traffic

I-40 = Interstate 40

LOS = level of service

Existing Intersection Level of Service

Table 5.11-5, Existing Intersection Level of Service, presents peak hour intersection LOS and average vehicle delay results under existing conditions. The LOS calculation worksheets are provided in Appendix BB, Traffic Counts. Figure 5.11-4, Existing Traffic Volumes (AM/PM Peak Hour), shows existing morning and evening peak hour turning movement volumes at each study area intersection.

Table 5.11-5
Existing Intersection Level of Service

Intersection	Morning Peak Hour		Evening Peak Hour	
	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
I-40 WB Ramp/Hector Road	8.9	A	8.9	A
I-40 EB Ramp/Hector Road	8.5	A	8.6	A
Hector Road/National Trails Highway	7.2	A	0.0	A

Source: URS Corporation, 2008.

Notes:

EB = eastbound
I-40 = Interstate 40
LOS = level of service
sec = seconds
veh = vehicle
WB = westbound

As shown in Table 5.11-5, Existing Intersection Level of Service, all traffic study intersections currently operate at LOS A under existing conditions.

5.11.2 Environmental Consequences

5.11.2.1 Significance Criteria

According to the guidelines established in California Energy Commission Staff Application for Certification Instructions and those set forth in California Environmental Quality Act, Appendix G (1), (Public Resources Code Section 21000 *et seq.*), a project would result in a significant effect when it will “cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system,” or when it:

- generates substantial additional vehicular movement,
- affects existing parking facilities or promotes demand for new parking facilities,
- substantially affects existing transportation systems,
- alters present patterns of circulation or the movement of people and/or goods,
- alters waterborne, rail, or air traffic, and
- increases traffic hazards to motor vehicles, bicyclists, or pedestrians.

Significant effects would also include the failure to comply with federal and state regulations governing the transportation of hazardous materials, or the generation of traffic volumes violating local LOS standards.

State Highway Level of Service Standard

Based on the Caltrans Guide for the Preparation of Traffic Impact Studies, “Caltrans endeavors to maintain a target LOS at the transition between LOS ‘C’ and LOS ‘D’ on State Highway Facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained.”

Based on the above requirements the conditions below apply in the determination of significant state highway effects.

- The desired LOS is LOS D or better.
- A significant effect occurs when no action/pre-project (Base) LOS A, B, C, and D becomes LOS E or F with the Project.
- A significant effect occurs when no action/pre-project (Base) LOS E becomes LOS F with the Project.

County Facilities Level of Service Standard

The County of San Bernardino strives to maintain LOS D (with $V/C < 1.00$) or better operating conditions for study intersections. The study roadways were evaluated using the 2003 SANBAG CMP Generalized Peak Hour/Peak Direction Level of Service Standards.

5.11.2.2 Project Description

The Project (Project) includes the construction, operation, maintenance, and abandonment of up to 850 megawatts (MW) of capacity by a solar power generating facility and its ancillary systems in two phases (Phase I: 500MW [approximately 5,838 acres]/Phase II 350MW [approximately 22,392 acres]). The Project will consist of up to approximately 34,000 SunCatchers. Construction is anticipated to occur over a 40-48-month period beginning in 2010 and ending in 2014. It is estimated that approximately an average of 400 construction and 180 long-term labor jobs will be required.

The Proposed Project is located primarily on BLM land within the Barstow Field Office. The proposed main Project Site access will be via Hector Road with an existing interchange at I-40. A temporary westbound off and on ramp at I-40 is also being proposed to be used during the project construction.

An approved interconnection letter from CAISO has been issued for the Proposed Project. Additional upgrades to the Lugo-Pisgah Transmission Line and upgrades at the Pisgah Substation will be required for the full build out of the 850MW Proposed Project.

Project Construction Trip Generation

During the 48-month Project construction schedule, the Project study area will experience short-term increases in traffic associated primarily with construction worker commute and material and equipment delivery trips. The traffic analysis evaluated the worst-case Project construction scenario by analyzing the peak month where the combined trip total between worker commute and material and equipment delivery trips is highest.

Construction Workers

The construction trade projections provided by the Project design engineer estimated that, during the peak construction month, there will be 731 workers on-site working on a daily basis. To evaluate the worst-case scenario, the traffic analysis assumed no workers would carpool and all workers would arrive during the morning peak period (0700 to 0900) and depart during the evening peak period (1600 to 1800).

Construction Equipment and Material Deliveries

The construction equipment and material delivery projections provided by the Project design engineer estimated that during the peak construction month, there will be 1,099 truck trips per month. These trips were subsequently converted into passenger car equivalent (PCE) trips at 3 PCE per truck. No acutely hazardous materials would be delivered to or used by the Project. Most deliveries will occur between 0700 and 1700 on weekdays. Because truck deliveries will likely arrive and depart throughout the day, 30 percent of the total daily truck trips were conservatively assumed to occur during the morning and evening peak hours.

The Project construction trip generation data in Table 5.11-6, Project Construction Trip Generation, show the resultant trips that would be generated by construction personnel and delivery trucks.

**Table 5.11-6
Project Construction Trip Generation**

Vehicle Type	Peak Daily Round Trips	Morning Peak Trips			Evening Peak Trips		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Construction worker vehicles ¹	1,462	731	0	731	0	731	731
Truck deliveries ²	274	41	0	41	0	41	41

Source: Stirling Energy Systems, Inc., 2008, Revised Plan of Development, Figures and Tables Volume, October 6, 2008.

Notes:

¹Peak workforce was conservatively analyzed at 731 worker trips conservatively assumed to drive alone during both the morning (0700 to 0900) and evening (1600 to 1800) peak hours. (Table 13-1 Construction Trade Projections)

²Trucks deliveries shown in the table were adjusted into PCE vehicles (3 PCE per month). 1,099 truck trips per month = 3,297 PCEs divided by 24 working days = 137 PCE one-way trips or 274 round trips per day on average. It was also assumed that 30 percent of the truck delivery trips arrive during the morning peak hour and leave during the evening peak hour while the remaining deliveries (70 percent) would arrive and leave during off-peak hours.

PCE = passenger car equivalent

Project Operations Trip Generation

During Project operations, the Project study area will experience minor increases in traffic associated primarily with operation worker commute and operation and maintenance (O&M)

trips and some minimal visitor trips. The traffic analysis evaluated the worst-case Project operations scenario by accounting for both planned (operations and delivery) and future visitor trips within the Project study area.

Operations

The operational workforce projections provided by the Project design engineer show that project operations by Year 2014 would require up to 164 workers working on-site on a daily basis. The estimated vehicle requirements for operational workers include up to 120 cars and 4 van pool vehicles. The operational projections also included 10 daily visitor trips for sales, deliveries, and other services. To evaluate the worst-case scenario, these vehicle trips were assumed to arrive during the morning peak period (0700 to 0900) and depart during the evening peak period (1600 to 1800).

Deliveries

To sustain and support Project operations, five weekly delivery trips of hydrogen, O&M supplies, waste management, and hazardous waste handling are anticipated at the Project Site. In addition, one weekly tractor trailer trip is anticipated for spare parts, building supplies, and temporary rental equipments. It is estimated that there will be an average of 12 truck round trips or 36 PCE operational delivery round trips on a daily basis accessing the Project Site during operations. Delivery trips will likely arrive and depart throughout the day. The analysis assumed the worst-case scenario: that these trips occur on the same day.

The Project trip generation data in Table 5.11-7, Project Operations Trip Generation, show the resultant trips that would be generated by operations, deliveries, and Project Site trips.

**Table 5.11-7
Project Operations Trip Generation**

Vehicle Type	Peak Daily Round Trips ¹	Morning Peak Trips			Evening Peak Trips		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Operations	248	124	0	124	0	124	124
Deliveries ²	36	9	6	15	0	6	6
Visitors	20	5	5	10	5	5	10

Source: Stirling Energy Systems, Inc., 2008, Revised Plan of Development, Figures and Tables Volume, October 6, 2008 ; URS Corporation, 2008.

Notes:

¹ Peak workforce was conservatively analyzed at 124 worker trips . Conservatively assumed to drive alone during both a.m. (7:00 to 9:00) and p.m. (4:00 to 6:00) peak hours. Note that, this includes 120 workers (drive alone) plus 4 van pooling. (Table 10-1 Operations and Maintenance Vehicles)

² Heavy trucks shown in the table were adjusted into Passenger Car Equivalent (3 PCE) vehicle (6 Delivery vehicles x 3 PCE = 18 one-way or 36 round trips).

PCE = passenger car equivalent

Project Trip Distribution

Trip Distribution and Assignment

It is assumed that workers will come from San Bernardino County and adjoining counties. Solar equipment components will also be transported and fabricated on-site. As shown in Table 5.11-

8, Workforce/Delivery Trips Distribution, it is anticipated that the construction and operation workforces will be originating from both east and west I-40:

Table 5.11-8
Workforce/Delivery Trips Distribution

Origin of Workforce Vehicle Travel to Project Site	Construction Workforce	Operation Workforce	Truck Delivery
I-40 East	20.0%	20.0%	40.0%
I-40 West	80.0%	80.0%	60.0%
Totals	100.0%	100.0%	100.0%

Source: Stirling Energy Systems, Inc., 2008; URS Corporation, 2008.

Notes:

% = Percent

I-40 = Interstate 40

5.11.2.3 *Planned Roadway and Circulations Improvements*

Based on information provided by Caltrans and County of San Bernardino staff, at this time and during the course of the Project construction, there are no planned roadway and circulation improvements at the state (freeways) and county (local roads) level. The project proponent (SES), however, is proposing to build a construction access road to serve a temporary one-way westbound on and off ramp at I-40. Details of the proposed temporary I-40 ramp access is presented in Section 5.11.2.5, Project Effects.

5.11.2.4 *Future Baseline Traffic Projections*

The Year 2011 has been selected as the peak construction period for the Project. The Project construction trips are anticipated to reach their peak during this time. The Year 2014 has been selected as the Project build-out condition. The Year 2014 will be the year for evaluating effects of the Project O&M trips. During the Years 2011 and 2014, No Project traffic conditions (shown on Figure 5.11-5, Year 2011 No Project Traffic Volumes, and Figure 5.11-7, Year 2014 No Project Traffic Volumes) were derived by applying a 2 percent annual growth rate per year to the existing traffic volumes, as recommended and approved by the Traffic Division of the San Bernardino County Department of Public Works.

5.11.2.5 *Project Effects*

Construction of the Project will result in a temporary increase in traffic associated with the movement of construction vehicles, equipment, and personnel on the transportation network serving the Project study area. Where warranted, the Project will use proper signs and traffic control measures in accordance with Caltrans and San Bernardino County during the construction period. The Project will also coordinate construction activities with appropriate Caltrans, California Highway Patrol (CHP) and San Bernardino County departments, and other jurisdictions to maintain traffic flow and safety, including the transport of oversized and overweight loads on state and county roadways.

Operation of the Project will result in the addition of traffic associated with employees and movement of vehicles serving the Project; these trips, however, would be minimal as compared to the construction activity traffic. Both construction and O&M are discussed in detail below as they relate to potential traffic and transportation effects in the Project study area.

Project Design Features

In addition to the Hector Road access, SES had requested Caltrans District 8 for a temporary westbound I-40 on and off ramp that would connect to an existing unimproved BLM road. The temporary construction site access road would be east of the Project Site and the Lugo-Pisgah Transmission Line Corridor. The road would provide egress-ingress to I-40 only during construction and would traverse a BLM ACEC. It must be noted that Caltrans approval of this ramp is contingent upon an encroachment permit only during project construction. The road during construction will be required to be a certain width that will be determined in coordination with Caltrans and BLM. The roadway would be stabilized with a biodegradable, copolymer soil stabilizer. The proposed temporary freeway ramp and site access road is illustrated in Figure 5.11-5, I-40 Temporary Construction Access Road.

Project Construction Effects

Construction of the Project will occur over an estimated 40-month period with varying levels of manpower, construction delivery, and equipment use. The majority of Project construction activities are anticipated to occur during normal daytime work hours. Possible exceptions may include limited night construction activities which are considered time critical or continuous in nature (such as concrete pours), and that may require extension of work hours based on inherent process requirements or material driven characteristics. These nighttime construction activities are considered nonrecurring events that would generate a minimal number of trips, retain a small number of workers on-site, and would likely have minimal effect on evening peak hour traffic. Therefore, nighttime work is anticipated to be a non-critical trip generation factor in the Project construction phase, with no significant effects.

During the Project construction, small quantities of hazardous materials will be delivered and construction waste products will be hauled to and from the Project Site. A more detailed discussion on Project waste management and handling of hazardous materials is presented in Section 5.14, Waste Management, and Section 5.15, Hazardous Materials Handling, respectively. All applicable LORS will be observed during the course of Project construction.

Roadway Level of Service During Project Construction

Table 5.11-9, Roadway Level of Service – Year 2011 No Project Conditions, shows the roadway LOS for Year 2011 No Project conditions.

**Table 5.11-9
Roadway Level of Service – Year 2011 No Project Conditions**

Roadway	Location	Classification	Traffic Volumes	Truck Percent of ADT	LOS
I-40	West of Hector Road	Freeway	15,660 ¹	43 ³	B ⁴
I-40	East of Hector Road	Freeway	16,850 ¹	43 ³	B ⁴
Hector Road	North of I-40	Local	10/10 ²	--	A/A ⁵
Hector Road	South of I-40	Collector	10/15 ²	--	A/A ⁵
National Trails Highway	West of Hector Road	Collector	10/10 ²	--	A/A ⁵
National Trails Highway	East of Hector Road	Collector	10/15 ²	--	A/A ⁵
BLM Access Road	North of I-40	Local	N/A	N/A	N/A

Source: URS Corporation, 2008.

Notes:

¹ADT Volumes. Source: 2007 Traffic Volumes (Caltrans, 2008a).

²AM/PM Volumes (Higher Volume between Northbound and Southbound Direction). Source: National Data Services, 2008a.

³Source: 2007 Truck Volumes (Caltrans, 2008b).

⁴ADT LOS.

⁵Peak Hour LOS.

⁶Peak Hour LOS is based on Table 5.11-3, San Bernardino County CMP, 2003 Update.

-- = not available

ADT = average daily traffic

I-40 = Interstate 40

LOS = level of service

As shown in Table 5.11-9, Roadway Level of Service – Year 2011 No Project Conditions, all traffic study roadway segments are forecast to operate at LOS B or better under Year 2011 No Project conditions.

Table 5.11-10, Roadway Level of Service – Year 2011 Project Construction Conditions, shows the roadway LOS for Year 2011 Project Construction conditions.

**Table 5.11-10
Roadway Level of Service – Year 2011 Project Construction Conditions**

Roadway	Location	Classification	Traffic Volumes	Truck Percent of ADT	LOS
I-40	West of Hector Road	Freeway	17,000 ¹	43 ³	B ⁴
I-40	East of Hector Road	Freeway	17,250 ¹	43 ³	B ⁴
Hector Road	North of I-40	Local	705/775 ²	--	B/C ⁵
Hector Road	South of I-40	Collector	10/15 ²	--	A/A ⁵
National Trails Highway	West of Hector Road	Collector	10/10 ²	--	A/A ⁵
National Trails Highway	East of Hector Road	Collector	10/15 ²	--	A/A ⁵
BLM Access Road	North of I-40	Local	81/12 ²	--	A/A ⁵

Source: URS Corporation, 2008.

Notes:

¹ADT Volumes. Source: 2007 Traffic Volumes (Caltrans, 2008a).

²AM/PM Volumes (Higher Volume between Northbound and Southbound Direction). Source: National Data Services, 2008a.

³Source: 2007 Truck Volumes (Caltrans, 2008b).

⁴ADT LOS.

⁵Peak Hour LOS.

⁶Peak Hour LOS is based on Table 5.11-3, San Bernardino County CMP, 2003 Update.

-- = not available

ADT = average daily traffic

I-40 = Interstate 40

LOS = level of service

As shown in Table 5.11-10, Roadway Level of Service – Year 2011 Project Construction Conditions, all traffic study intersections are forecast to operate at LOS C or better under Year 2011 Project Construction conditions. No study roadway segments will be significantly affected by Project construction activities.

Intersection Level of Service During Project Construction

Table 5.11-11, Peak Hour Intersection Level of Service – Year 2011 No Project Conditions, presents peak hour intersection LOS and average vehicle delay results under Year 2011 No Project conditions. The LOS calculation worksheets are provided in Appendix BB, Traffic Counts. Figure 5.11-6, Year 2011 No Project Traffic Volumes, shows Year 2011 No Project morning and evening peak hour turning movement volumes at each study area intersection.

Table 5.11-11
Peak Hour Intersection Level of Service – Year 2011 No Project Conditions

Intersection	Morning Peak Hour		Evening Peak Hour	
	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
I-40 WB Ramp/Hector Road	8.8	A	8.8	A
I-40 EB Ramp/Hector Road	8.8	A	8.8	A
Hector Road/National Trails Highway	8.5	A	8.5	A

Source: URS Corporation, 2008.

Notes:

EB = eastbound
I-40 = Interstate 40
LOS = level of service
sec = seconds
veh = vehicle
WB = westbound

As shown in Table 5.11-11, Peak Hour Intersection Level of Service – Year 2011 No Project Conditions, all study intersections are forecasted to operate at LOS C or better under Year 2011 No Project conditions.

Table 5.11-12, Peak Hour Intersection Level of Service – Year 2011 Project Construction Conditions, presents peak hour intersection LOS and average vehicle delay results under Year 2011 Project Construction conditions. The LOS calculation worksheets are provided in Appendix BB, Traffic Counts. Figure 5.11-7, Year 2011 No Project Traffic Plus Project Construction Traffic Volumes, shows Year 2011 Project Construction conditions for morning and evening peak hour turning movement volumes at each study area intersection.

Table 5.11-12
Peak Hour Intersection Level of Service – Year 2011 Project Construction Conditions

Intersection	Morning Peak Hour		Evening Peak Hour	
	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
I-40 WB Ramp/Hector Road	15.5	C	13.1	B
I-40 EB Ramp/Hector Road	16.5	C	11.0	B
Hector Road/National Trails Highway	8.5	A	8.5	A

Source: URS Corporation, 2008.

Notes:

EB = eastbound
I-40 = Interstate 40
LOS = level of service
sec = seconds
veh = vehicle
WB = westbound

As shown in Table 5.11-12, Peak Hour Intersection Level of Service – Year 2011 Project Construction Conditions, all study intersections are forecast to operate at LOS C or better under

Year 2011 Project Construction conditions. No study intersections will be significantly affected by Project construction activities.

The study intersections are anticipated to experience short-term increases in construction traffic during the peak construction period. However, traffic volume is expected to return to pre-project levels on completion of construction.

Rail Road Delivery Option

In addition to the existing Hector Road interchange and the proposed I-40 temporary off-ramp and access road, a potential railroad delivery option is under consideration. The railroad option would require coordination with BNSF to construct a railroad siding specifically designed to off-load construction materials in a safe and efficient manner with minimal disruption to current BNSF rail traffic operations. When implemented, the rail delivery option will reduce project construction related truck traffic along I-40, at the proposed I-40 temporary off-ramp and at the Hector Road interchange. It is anticipated that the proposed the rail delivery option under consideration would significantly reduce the traffic loadings and further improve the forecast LOS C conditions at the study intersections during project construction.

Project Operations Effects

The Project is projected to be completed by 2014. During the normal O&M of the Project, a planned 164 employee workforce will oversee its O&M. Occasional deliveries and maintenance-related trips are anticipated as part of normal operations. The following sections describe the operational effects of the Project.

During Project operations, small quantities of hazardous materials will be delivered and operational waste products will be hauled to and from the Project Site. A more detailed discussion on Project waste management and handling of hazardous materials is presented in Section 5.14, Waste Management, and Section 5.15, Hazardous Materials Handling, respectively. Applicable LORS will be observed during Project operations.

Roadway Level of Service During Project Operations

Table 5.11-13, Roadway Level of Service – Year 2014 No Project Conditions, shows the roadway LOS for Year 2014 No Project conditions.

**Table 5.11-13
Roadway Level of Service – Year 2014 No Project Conditions**

Roadway	Location	Classification	Traffic Volumes	Truck Percent of ADT	LOS
I-40	West of Hector Road	Freeway	16,675 ¹	43 ³	B ⁴
I-40	East of Hector Road	Freeway	17,940 ¹	43 ³	B ⁴
Hector Road	North of I-40	Local	10/10 ²	--	A/A ⁵
Hector Road	South of I-40	Collector	10/15 ²	--	A/A ⁵
National Trails Highway	West of Hector Road	Collector	10/10 ²	--	A/A ⁵
National Trails Highway	East of Hector Road	Collector	10/15 ²	--	A/A ⁵
BLM Access Road	North of I-40	Local	N/A	N/A	N/A

Source: URS Corporation, 2008.

Notes:

¹ADT Volumes. Source: 2007 Traffic Volumes (Caltrans, 2008a).

²AM/PM Volumes (Higher Volume between Northbound and Southbound Direction). Source: National Data Services, 2008a.

³Source: 2007 Truck Volumes (Caltrans, 2008b).

⁴ADT LOS.

⁵Peak Hour LOS.

⁶Peak Hour LOS is based on Table 5.11-3, San Bernardino County CMP, 2003 Update.

-- = not available

ADT = average daily traffic

I-40 = Interstate 40

LOS = level of service

As shown in Table 5.11-13, Roadway Level of Service – Year 2014 No Project Conditions, all study roadway segments are forecast to operate at LOS B or better under Year 2014 No Project conditions.

Table 5.11-14, Roadway Level of Service – Year 2014 Project Operations Conditions, shows the roadway LOS for Year 2014 Project Operations conditions.

**Table 5.11-14
Roadway Level of Service – Year 2014 Project Operations Conditions**

Roadway	Location	Classification	Traffic Volumes	Truck Percent of ADT	LOS
I-40	West of Hector Road	Freeway	16,915 ¹	43 ³	B ⁴
I-40	East of Hector Road	Freeway	18,010 ¹	43 ³	B ⁴
Hector Road	North of I-40	Local	150/150 ²	--	A/A ⁵
Hector Road	South of I-40	Collector	10/15 ²	--	A/A ⁵
National Trails Highway	West of Hector Road	Collector	10/10 ²	--	A/A ⁵
National Trails Highway	East of Hector Road	Collector	10/15 ²	--	A/A ⁵
BLM Access Road	North of I-40	Local	N/A	N/A	N/A

Source: URS Corporation, 2008.

Notes:

¹ADT Volumes. Source: 2007 Traffic Volumes (Caltrans, 2008a).

²AM/PM Volumes (Higher Volume between Northbound and Southbound Direction). Source: National Data Services, 2008a.

³Source: 2007 Truck Volumes (Caltrans, 2008b).

⁴ADT LOS.

⁵Peak Hour LOS.

⁶Peak Hour LOS is based on Table 5.11-3, San Bernardino County CMP, 2003 Update.

-- = not available

ADT = average daily traffic

I-40 = Interstate 40

LOS = level of service

As shown in Table 5.11-14, Roadway Level of Service – Year 2014 Project Operations Conditions all study roadway segments are forecast to operate at LOS B or better under Year 2014 Project Operations conditions.

Intersection Level of Service During Project Operations

Table 5.11-15, Peak Hour Intersection Level of Service – Year 2014 No Project Conditions, presents peak hour intersection LOS and average vehicle delay under Year 2014 No Project conditions. The LOS calculation worksheets are provided in Appendix BB, Traffic Counts. Figure 5.11-8, Year 2014 No Project Traffic Volumes, shows Year 2014 No Project conditions for morning and evening peak hour turning movement volumes for each traffic study area intersection.

Table 5.11-15
Peak Hour Intersection Level of Service – Year 2014 No Project Conditions

Intersection	Morning Peak Hour		Evening Peak Hour	
	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
I-40 WB Ramp/Hector Road	8.8	A	8.8	A
I-40 EB Ramp/Hector Road	8.8	A	8.8	A
Hector Road/National Trails Highway	8.5	A	8.5	A

Source: URS Corporation, 2008.

Notes:

EB = eastbound
I-40 = Interstate 40
LOS = level of service
sec = seconds
veh = vehicle
WB = westbound

As shown in Table 5.11-15, Peak Hour Intersection Level of Service – Year 2014 No Project Conditions, all study intersections are forecast to operate at LOS A or better under Year 2014 No Project conditions.

Table 5.11-16, Peak Hour Intersection Level of Service – Year 2014 Project Operations Conditions, presents peak hour intersection LOS and average vehicle delay results under Year 2014 Project Operations conditions. The LOS calculation worksheets are provided in Appendix BB, Traffic Counts. Figure 5.11-9, Year 2014 No Project Traffic Plus Project Operations Traffic Volumes, shows Year 2014 Project Operations morning and evening peak hour turning movement volumes for each study area intersection.

Table 5.11-16
Peak Hour Intersection Level of Service –Year 2014 Project Operations Conditions

Intersection	Morning Peak Hour		Evening Peak Hour	
	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
I-40 WB Ramp/Hector Road	9.3	A	9.2	A
I-40 EB Ramp/Hector Road	9.3	A	9.1	A
Hector Road/National Trails Highway	8.5	A	8.5	A

Source: URS Corporation, 2008.

Notes:

EB = eastbound
I-40 = Interstate 40
LOS = level of service
sec = seconds
veh = vehicle
WB = westbound

As shown in Table 5.11-16, Peak Hour Intersection Level of Service – Year 2014 Project Operations Conditions, all traffic study area intersections are forecast at LOS A or better under Year 2014 Project Operations.

There would be a minimal increase in intersection delay because of the minimal number of added trips associated with Year 2014 Project Operations,. The minimal increase in intersection delay would not cause degradation of LOS to unacceptable levels or a significant effect.

Based on these findings, no significant traffic effects would occur at the traffic study area intersections during Project operations.

5.11.2.6 Project Effects Summary

Effects of Construction Traffic on Roadways

The roadways that will experience a short-term increase in traffic from construction worker and truck deliveries will be I-40, Hector Road and the proposed temporary one-way off ramp at I-40. The projected added trips along these roadways, however, would not result in degradation of their current LOS to unacceptable levels.

Based on these findings, no significant traffic effects would occur at the traffic study area roadways during Project construction.

Effects of Construction Traffic on Intersections

The results of the intersection LOS analysis shown in Table 5.11-12, Peak Hour Intersection Level of Service – Year 2011 Project Construction Conditions, indicate that all study intersections would continue to operate at an acceptable LOS C or better during both morning and evening peak hour analysis periods. These good intersection operating conditions are attributed to the low baseline pre-construction traffic in the study area which provided sufficient intersection capacity to handle short-term construction traffic.

Based on these findings, no significant traffic effects would occur at the traffic study intersections during Project construction.

Effects of Project Operations Traffic on Roadways

Similar to construction conditions, the roadways that will experience Project operational traffic will be I-40 and Hector Road. The projected added trips from operational workers, maintenance deliveries and visitors along these roadways, however, would not result in degradation of the future pre-operational roadway LOS to unacceptable levels.

Based on these findings, no significant traffic effects would occur at the traffic study area roadways during Project operations.

Effects of Project Operations on Intersections

The results of the intersection LOS analysis, shown in Table 5.11-16, Peak Hour Intersection Level of Service – Year 2014 Project Operations Conditions, indicate that all study intersections would continue to operate at an acceptable LOS A during both morning and evening peak hour analysis periods. These good intersection operating conditions are attributed to the low future pre-operational traffic in the study area which provided sufficient intersection capacity to handle Project operations traffic.

Based on these findings, no significant traffic effects would occur at the traffic study intersections during Project operation.

5.11.3 Cumulative Effects

Based on available information, the Project's construction or operation traffic the following projects could potentially coincide with the following potential projects within the project study area:

1. approximately 67-mile transmission line upgrade from the Pisgah Substation following existing transmission lines
2. Expansion of the Pisgah Substation
3. SES Solar Three Project, located adjacent to Solar One
4. Additional solar and wind energy projects within San Bernardino County.

Based on the Project construction and operations schedule, it is anticipated that there will be minimal overlap the aforementioned projects. At the worst case condition, considering overlap with the construction of the 65-mile transmission line and expansion of the Pisgah substation, the trip generation potential of these two projects are minimal and will not contribute to any significant cumulative traffic impact during either, construction and operation of the Solar One project. Construction of Solar One and Three are expected to have minimal overlap and operations impact to traffic and transportation are anticipated to be less than significant.

Furthermore, the use of the San Bernardino County recommended 2 percent annualized growth factor to account for future ambient traffic growth and the cumulative traffic in the area is very conservative given the current pace of development in the study area. The result of both Project construction and operations analysis found no significant cumulative traffic impact.

Based on the above findings it is anticipated that the Project will not result in cumulative construction and operational Project effects.

5.11.4 Mitigation Measures**5.11.4.1 Project Construction Mitigations**

During Project construction, no study roadway segments or study intersections will be significantly affected by the Project. Therefore, no Project construction traffic mitigations are proposed to address roadway and intersection LOS deficiencies.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

No mitigation is required, as Project construction traffic effects are less than significant.

5.11.4.2 Project Operations Mitigations

During Project operations, no study roadway segments or study intersections will be significantly affected by the Project. Therefore, no Project operations traffic mitigations are proposed to address roadway and intersection LOS deficiencies.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

No mitigation is required, as Project operations traffic effects are less than significant.

5.11.4.3 Pro-active Mitigation Measures

As described above, during Project construction and operations, no study roadway segments and intersections would be significantly affected by the Project.

The following proposed mitigation measures will be offered pro-actively to address Project related activities during construction or operations.

- **Traffic Control Measures:** Utilize proper signs and traffic control measures in accordance with Caltrans and County requirements. All traffic signs, equipments, and control measures shall conform to the provisions specified in the Manual of Uniform Traffic Control Device California Edition.
- **Lane Closures:** Schedule traffic lane or road closures during off-peak hours whenever possible.
- **Limit Construction Traffic:** Limit vehicular traffic to designated access roads, construction laydown and worker parking areas, and Project construction site. Encourage workers to carpool to minimize drive-alone worker trips.

5.11.5 Compliance with LORS**5.11.5.1 Federal*****Title 49, Code of Federal Regulations, Sections 171-177***

Governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.

The administering agency for the above regulation is the CHP.

The Project would conform to this law by requiring that shippers of hazardous materials use the required markings on their transportation vehicles.

Title 14, Code of Federal Regulations, Section 77.13(2)(i)

Requires an applicant to notify FAA of construction of structures with a height greater than 200 feet from grade or greater than an imaginary surface extending outward and upward at a slope of 10:1 from the nearest point of the nearest runway of an airport with at least one runway more than 3,200 feet in length.

The administering agency for the above regulation is the FAA.

The Project heights will not exceed 200 feet. Therefore, notification to the FAA will not be required.

5.11.5.2 State***California Vehicle Code, Section 353***

Defines hazardous materials as any substance, material, or device posing an unreasonable risk to health, safety, or property during transportation, as defined by regulations adopted pursuant to Section 2402.7.

The administering agency for the above regulation is the CHP.

California Vehicle Code, Sections 13369, 15275, and 15278

Addresses the licensing of drivers and the classification of license required for the operation of particular types of vehicles. Requires a commercial driver's license to operate commercial vehicles. Requires an endorsement issued by the Department of Motor Vehicles to drive any commercial vehicle identified in Section 15278.

The administering agency for the above regulation is the DMV.

The Project would comply with these codes by requiring that contractors and employees are properly licensed and endorsed when operating such vehicles.

California Vehicle Code, Sections 31303-31309

Requires that the transportation of hazardous materials be on the state or interstate highway that offers the shortest overall transit time possible.

The administering agency for the above regulation is the CHP.

The Project would comply with this law by requiring that shippers of hazardous materials use the shortest route possible to and from the Project Site.

California Vehicle Code, Sections 32000-32053

Authorizes the CHP to inspect and license motor carriers transporting hazardous materials.

The administering agency for the above regulation is the CHP.

The Project would comply with this law by requiring that shippers of hazardous materials be properly licensed by the CHP.

California Vehicle Code, Sections 32100-32109

Requires that shippers of inhalation hazard or explosive materials must contact the CHP and apply for a hazardous material transportation license.

The administering agency for the above regulation is the CHP.

If applicable, the Project would comply with this law by requiring shippers of these types of material to obtain the hazardous material transportation license.

California Vehicle Code, Sections 34000-34100

Establishes special requirements for vehicles having a cargo tank and to hazardous waste transport vehicles and containers, as defined in Section 25167.4 of the Health and Safety Code. The commissioner shall provide for the establishment, operation, and enforcement of random on- and off-highway inspections of cargo tanks and hazardous waste transport vehicles and containers to ensure that they are designed, constructed, and maintained in accordance with the regulations adopted by the commissioner pursuant to this code and Chapter 6.5 (commencing with Section 25100) of Division 20 of the Health and Safety Code.

The administering agency for the above regulation is the CHP.

The Project would comply with this law by requiring that shippers of hazardous materials be properly licensed by the CHP and hazardous material transport vehicles be in compliance with CHP inspection procedures.

California Vehicle Code, Section 3500

Regulates the safe operation of vehicles, including those vehicles that are used for the transportation of hazardous materials.

The administering agency for the above regulation is the CHP.

The Project would comply with this law by requiring that shippers of hazardous materials have the necessary permits, inspections, and licenses issued by the CHP for the safe operation of hazardous materials transport vehicles.

California Vehicle Code Section 35550

Imposes weight guidelines and restrictions on vehicles traveling on freeways and highways. The section holds that “a single axle load shall not exceed 20,000 pounds (lbs). The load on any one wheel or wheels supporting one end of an axle is limited to 10,500 lbs. The front steering axle load is limited to 12,500 lbs.” Furthermore, California Vehicle Code 35551 defines the maximum overall gross weight as 80,000 lbs and adds that “the gross weight of each set of tandem axles shall not exceed 34,000 lbs.”

The administering agency for the above regulation is Caltrans.

The Project would comply with this code by requiring heavy haulers to obtain permits, if required, before delivery.

California Vehicle Code, Section 35780

Requires a single-trip transportation permit to transport oversized or excessive loads over state highways. The permit can be acquired through Caltrans.

The administering agency for the above regulation is Caltrans.

The Project would comply with this code by requiring that heavy haulers obtain a single-trip transportation permit for oversized loads for each vehicle, before delivery.

California Streets and Highways Code, Section 117

Requires, unless otherwise specifically provided in the instrument conveying title, the acquisition by Caltrans of any ROW over any real property for state highway purposes, includes the right of Caltrans to issue, under Chapter 3 (commencing with Section 660), permits for the location in the ROW of any structures or fixtures necessary to telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures.

The administering agency for the above regulation is Caltrans.

If applicable, the Project would comply with this code by acquiring the necessary permits and approval from Caltrans with regard to use of public ROWs.

The California Streets and Highways Code, Sections 660, 670, 672, 1450, 1460, 1470, and 1480 et seq.

Defines highways and encroachment, requires encroachment permits for projects involving excavation in state highways and county/city streets. This law is generally enforced at the local level.

The administering agency for the above regulation is Caltrans and San Bernardino County.

The applicant or its assigned contractors would apply for encroachment permits for any excavation in state and county roadways before construction.

California Health and Safety Code, Section 25160 et seq.

Addresses the safe transport of materials, requires a manifest of hazardous cargo, and requires that a person who transports hazardous waste in a vehicle shall have a valid registration issued by the Department of Health Services, in his or her possession, while transporting hazardous waste.

The administering agency for the above regulation is the CHP.

The Project would comply with this law by requiring that shippers of hazardous materials be properly licensed by the CHP and hazardous material transport vehicles are in compliance with CHP inspection procedures.

California Manual of Traffic Control Device, Section 6C.01

Requires a temporary traffic control plan (TTC) be provided for “continuity of function (movement of traffic, pedestrians, bicyclists, transit operations), and access to property/utilities” during any time the normal function of a roadway is suspended. Some important elements that

cannot be conveniently shown in the plans will be incorporated in the Special Provisions of the TTC.

The administering agency for the above regulation is Caltrans and/or San Bernardino County. If needed, the applicant would file a TTC before the start of construction.

5.11.5.3 Local

San Bernardino County has LORS that specifically address the traffic and circulation associated with the Project and the community at large.

The San Bernardino County General Plan Circulation and Infrastructure Element, is the main source of the following paragraphs summarizing the applicable LORS and programs and policies that address traffic and circulation that could be affected by construction and operation of the Project.

San Bernardino County General Plan, Circulation and Infrastructure Element, Desert Region, Goal D/C11.

Ensure a safe and effective transportation system that provides adequate traffic movement while preserving the rural desert character of the region.

The Project would comply with this goal to follow and comply with applicable safeguards and procedures when operating within county facilities during the construction and operations of the Project.

San Bernardino County General Plan, Circulation and Infrastructure Element, Desert Region, Policy D/C11.1 Maintain Level of Service C on major arterials.

The County shall ensure that all new development proposals do not degrade Levels of Service (LOS) on Major Arterials below LOS C in the Desert Region.

The administering agency for the above policy is the San Bernardino County DPW.

If applicable, the Project would comply with this policy to maintain LOS C conditions.

San Bernardino County General Plan, Circulation and Infrastructure Element, Desert Region, Policy D/C11.2 Roadway Design.

Design roads to follow natural contours, avoid grid pattern streets, minimize cuts and fills and disturbance of natural resources and trees wherever possible.

The administering agency for the above policy is the San Bernardino County DPW.

If applicable, the Project would comply with this policy by incorporating the aforementioned design elements in the Project development.

San Bernardino County General Plan, Circulation and Infrastructure Element, Desert Region, Policy D/C11.3 Habitat preservation and protection.

Design road locations and alignments in such a manner to help preserve and protect sensitive habitats.

The administering agency for the above policy is the San Bernardino County DPW.

If applicable, the Project would comply with this policy to preserve and protect sensitive habitats.

The San Bernardino county Code of Traffic Regulations also known as the “County Traffic Code” provides definitions, guidance and enforcement of regulations concerning traffic and transportation within the county.

San Bernardino County Traffic Code, Section 52.0125, Weight Limitations, (a) Limits on unimproved highways.

Requires compliance to posted weight limitations on unimproved highways.

The administering entity for the regulation is the San Bernardino County DPW.

If applicable, the Project would comply with this regulation to protect the structural integrity of unimproved county highways.

The LORS applicable to traffic and transportation are summarized in Table 5.11-17, Summary of LORS – Traffic and Transportation.

**Table 5.11-17
Summary of LORS – Traffic and Transportation**

LORS	Requirements	Conformance Section	Administering Agency	Agency Contact
Federal Jurisdiction				
Title 49, Code of Federal Regulations, Sections 171-177	Governs the transportation of hazardous materials, including the marking of transportation vehicles.	Section 5.11.5.1	CHP	2,3
Title 14, Code of Federal Regulations, Section 77.13(2)(i)	Requires applicant to notify FAA of any construction greater than height limits defined by the FAA.	Section 5.11.5.1	FAA	1
State Jurisdiction				
California Vehicle Code, Section 353	Defines the hazardous materials.	Section 5.11.5.2	CHP	2,3
California Vehicle Code, Sections 13369, 15275, 15278	Addresses the licensing of drivers and the classification of license required for the operation of particular types of vehicles. In addition, these sections require the possession of certificates for permitting the operation of vehicles transporting hazardous materials.	Section 5.11.5.2	California DMV	6

Table 5.11-17
Summary of LORS – Traffic and Transportation

LORS	Requirements	Conformance Section	Administering Agency	Agency Contact
California Vehicle Code, Sections 31303-31309	Requires transporters of hazardous materials to use the shortest route possible.	Section 5.11.5.2	CHP	2,3
California Vehicle Code, Sections 32000-32053	Regulates the licensing of carriers of hazardous materials and noticing requirements.	Section 5.11.5.2	CHP	2,3
California Vehicle Code, Sections 32100-32109	Transporters of inhalation hazardous materials or explosive materials must obtain a hazardous materials transportation license.	Section 5.11.5.2	CHP	2,3
California Vehicle Code, Sections 34000-34100	Establish special requirements for flammable and combustible liquids over public roads and highways.	Section 5.11.5.2	CHP	2,3
California Vehicle Code, Section 34500	Regulate the safe operation of vehicles, including those that are used for the transportation of hazardous materials.	Section 5.11.5.2	CHP	2,3
California Vehicle Code, Section 35550	Imposes weight guidelines and restrictions on vehicles traveling on freeways and highways.	Section 5.11.5.2	Caltrans	4
California Vehicle Code, Section 35780	Requires approval for a permit to transport oversized or excessive loads over state highways.	Section 5.11.5.2	Caltrans	4
California Streets and Highways Code, Sections 117	Requires permits for the location in the ROW of any structures or fixtures necessary to telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures.	Section 5.11.5.2	Caltrans	2,3
California Streets and Highways Code, Sections 660, 670, 672, 450, 1460, 1470, 1480 <i>et seq.</i>	Defines highways and encroachment. Regulates ROW encroachment and the granting of permits with conditions for encroachment in state and county roads.	Section 5.11.5.2	Caltrans and San Bernardino County	4, 7
California Health and Safety Code, Section 25160 <i>et seq.</i>	Addresses the safe transport of hazardous materials.	Section 5.11.5.2	CHP	2,3
California Department of Transportation Traffic Manual, Section 5-1.1	Requires traffic control plans to ensure continuity of traffic during roadway construction.	Section 5.11.5.2	San Bernardino County	7
Local Jurisdiction				
San Bernardino County General Plan, Circulation and Infrastructure Element, Desert Region, Goal D/C11.	Ensure a safe and effective transportation system that provides adequate traffic movement while preserving the rural desert character of the region.	Section 5.11.5.3	San Bernardino County	7

**Table 5.11-17
Summary of LORS – Traffic and Transportation**

LORS	Requirements	Conformance Section	Administering Agency	Agency Contact
San Bernardino County General Plan, Circulation and Infrastructure Element, Desert Region, Policy D/C11.1 Maintain Level of Service C on major arterials.	The County shall ensure that all new development proposals do not degrade Levels of Service (LOS) on Major Arterials below LOS C in the Desert Region.	Section 5.11.5.3	San Bernardino County	7
San Bernardino County General Plan, Circulation and Infrastructure Element, Desert Region, Policy D/C11.2 Roadway Design.	Design roads to follow natural contours, avoid grid pattern streets, minimize cuts and fills and disturbance of natural resources and trees wherever possible.	Section 5.11.5.3	San Bernardino County	7
San Bernardino County General Plan, Circulation and Infrastructure Element, Desert Region, Policy D/C11.3 Habitat preservation and protection.	Design road locations and alignments in such a manner to help preserve and protect sensitive habitats.	Section 5.11.5.3	San Bernardino County	7
San Bernardino County Traffic Code, Section 52.0125, Weight Limitations, (a) Limits on unimproved highways.	Requires compliance to posted weight limitations on unimproved highways.	Section 5.11.5.3	San Bernardino County	7

Source: URS Corporation, 2008.

Notes:

The numbers in the Agency Contact column refer to the agency contacts contained in Table 5.11-18, Agency Contact List for LORS.

Caltrans = California Department of Transportation

CHP = California Highway Patrol

DMV = Department of Motor Vehicles

FAA = Federal Aviation Administration

LORS = laws, ordinances, regulations, and standards

ROW = right-of-way

5.11.5.4 Agencies and Agency Contacts

Agencies with jurisdiction to issue applicable permits and/or enforce LORS related to traffic and transportation are shown in Table 5.11-18, Agency Contact List for LORS.

**Table 5.11-18
Agency Contact List for LORS**

	Agency	Contact	Address	Telephone
1	Federal Aviation Administration	Karen McDonald	15000 Aviation Boulevard Lawndale, CA 90261-1002	310-725-6557
2	California Highway Patrol (Inland Division)	Officer Mario Lopez	847 E. Brier Drive San Bernardino, CA 92408-2820	909-806-2400
3	California Highway Patrol (Inland Division)	Officer Taj Johnson	300 E. Mountain View, Barstow, CA 92311-2887	760-255-8700
4	California Department of Transportation, South Region Transportation Permits Office	Moe Bhuyian	464 West 4th Street, MS 618 San Bernardino, CA 92401	909-553-8402
5	California Department of Transportation, District 8, Traffic Operations	Syed Raza, P.E.	464 W. Fourth Street, 6th Floor, San Bernardino, CA 92401-1400	909-383-5976
6	Department of Motor Vehicles, Licensing Operations Division	Public Inquiry	2415 1st Avenue Mail Station F101 Sacramento, CA 95818	916-657-8698
7	San Bernardino County Public Works Department	Jacob Babico, P.E.	825 E. Third Street, Room 115, San Bernardino, CA 92415-0835	909-387-8186

Source: URS Corporation, 2008.

5.11.5.5 Permits Required and Permitting Schedule

The permits required for this Project are listed in Table 5.11-19, Applicable Permits.

**Table 5.11-19
Applicable Permits**

Responsible Agency	Permit/Approval	Schedule
San Bernardino County, Department of Public Works	Encroachment Permit	As needed
San Bernardino County, Department of Public Works	Transportation Permit	As needed
California Department of Transportation	Encroachment Permit	As needed
California Department of Transportation	Transportation Permit	As needed

Source: URS Corporation, 2008.

5.11.6 References

California Code. 2008a. Vehicle Code.

_____. 2008b. Streets and Highways Code.

Caltrans (California Department of Transportation). 2008a. *2007 Traffic Volumes*.

_____. 2008b. *2007 Truck Volumes*.

- _____. 2008c. Telephone conversation and e-mail correspondence with Syed Raza, District 8 Traffic Operations Dept., California Department of Transportation (syed_raza@dot.ca.gov) on September to October 2008, 909-383-5976.
- _____. 2008f. *California Manual of Uniform Traffic Control Device (MUTCD)-(FHWA's MUTCD 2003 Revision 1, as amended for use in California)*
- CFR (Code of Federal Regulations). 2008a. *Title 14 Aeronautics and Space, Federal Aviation Administration.*
- _____. 2008b. *Title 49 Environment, Subtitle B – Other Regulations Relating to Transportation.*
- California Highway Patrol (CHP). 2008. Telephone conversation with Officer Mario Lopez, CHP Inland Division 7 November 2008, 909-806-2400.
- Dowling Associates. 1997-2000. *Traffix for Windows*. Version 7.6R1.
- Florida Department of Transportation. 2002. *Quality/Level of Service Handbook (Updated 2003 and 2007)*.
- McTrans Center, University of Florida. 2000. *Highway Capacity Software*. Version 4.1a.
- NDS (National Data Services), Southland Car Counters. 2008a. *24-hour ADT and Peak Hour Intersection Traffic Counts*.
- _____. 2008b. Traffic counts collected on November 2008. Document provided by National Data Services (NDS) Lu Santostefano, 323-782-0090.
- San Bernardino County. 1992. *Barstow-Daggett Airport Comprehensive Land Use Plan*.
- _____. 2001. *San Bernardino Non-Motorized Transportation Plan Update*.
- _____. 2007. *Circulation and Infrastructure Element*.
- San Bernardino County Public Works Department. 2008a. Telephone conversation with Jacob Babico on 7 November 2008, 909-387-8186.
- _____. 2008b. Telephone conversation and facsimile correspondence with Ed Petre, P.E. on 10 November 2008, 909-387-8239.
- _____. 2008c. *San Bernardino County Traffic Volume Expansion Factors*, Traffic Division, Traffic Planning Research Section, January 2008.
- _____. 2008d. *Traffic Division, Traffic Information System, County Maintained Roadbook, by Road Name, Number, and Sequence*, April 25, 2008.
- Stantec. 2008. *Site Development Electronic files* October to November 2008.
- Southern California Association of Governments. 2004. *2004 Regional Transportation Plan*.
- Transportation Research Board. 2000. *Highway Capacity Manual (Updated)*.
- Trafficware Corporation. 1993-2001. *Synchro*. Version 5 (Build 323).
- URS Corporation. 2008. *Field work, observations, research, and modeling*.

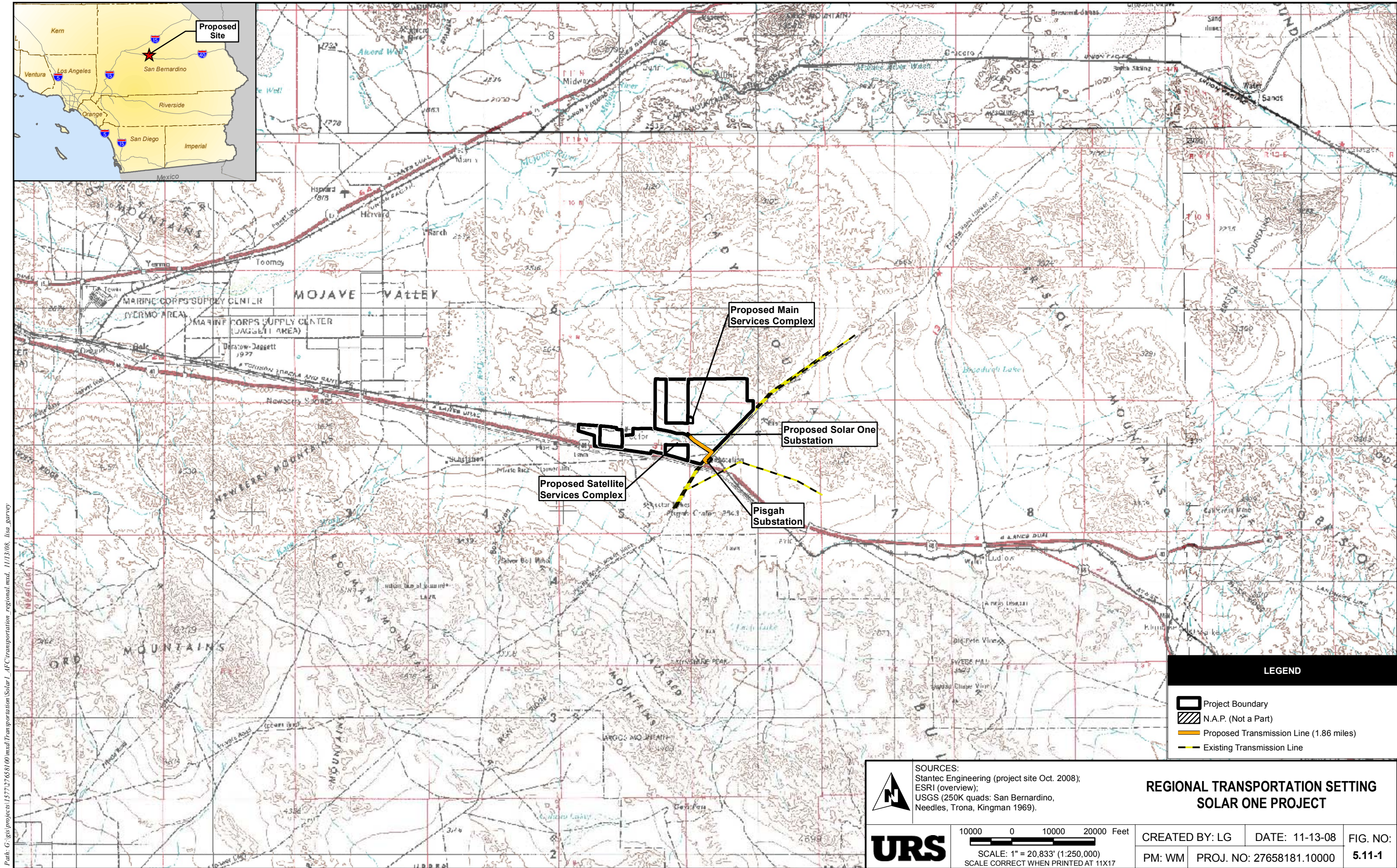
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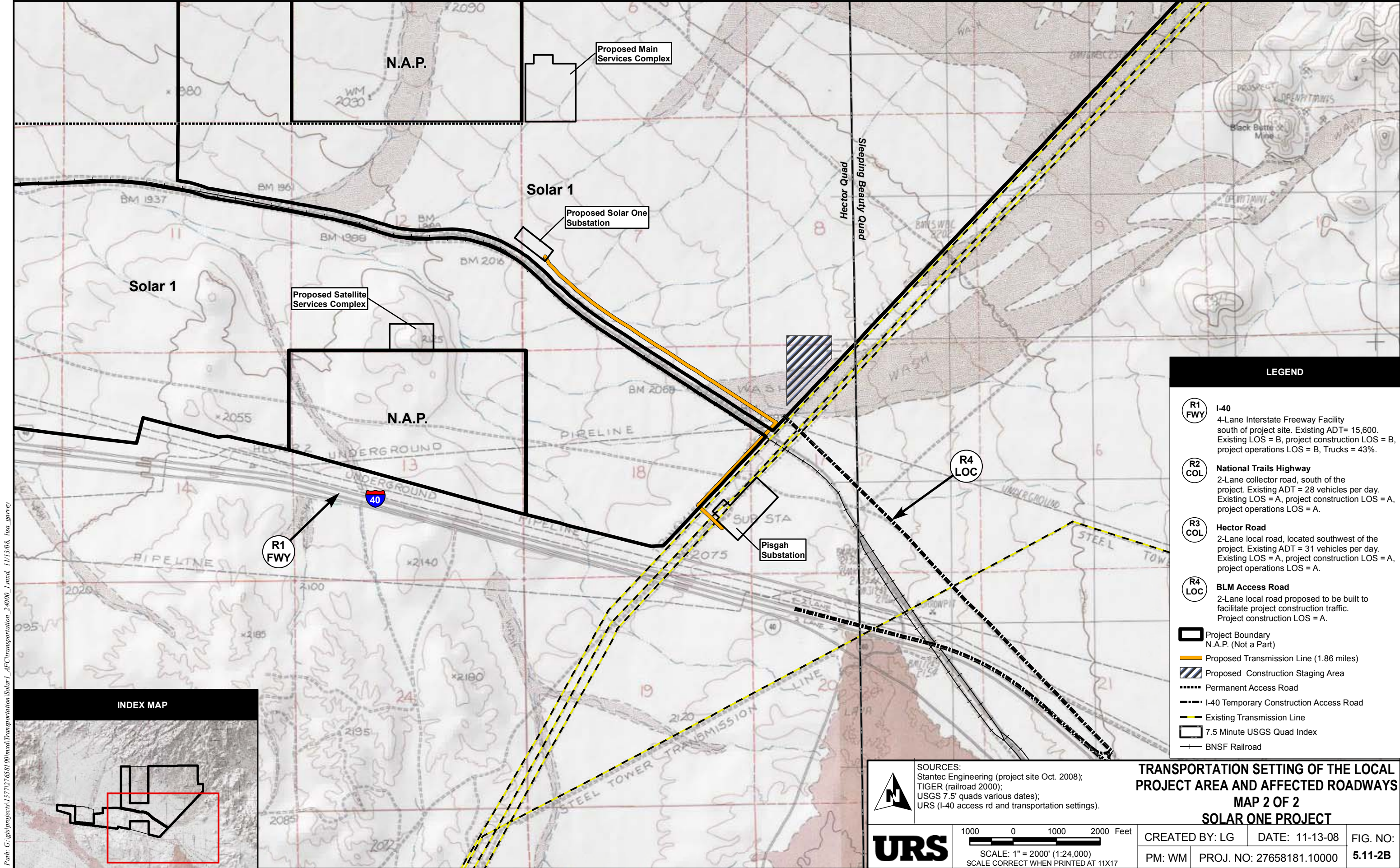
Adequacy Issue:	Adequate		Inadequate		DATA ADEQUACY WORKSHEET		Revision No.	0	Date	
Technical Area:	Traffic and Transportation			Project:	SES Solar One		Technical Staff:			
Project Manager:				Docket:			Technical Senior:			
SITING REGULATIONS	INFORMATION			AFC SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS				
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.			Section 5.11.1.1 through Section 5.11.1.6 Section 5.11.2.5 through Section 5.11.4.3 Section 5.11.5.1 through Section 5.11.5.5						
Appendix B (g) (5) (A)	A regional transportation setting, on topographic maps (scale of 1:250,000), identifying the project location and major transportation facilities. Include a reference to the transportation element of any applicable local or regional plan.			Figure 5.11-1						
Appendix B (g) (5) (B)	If the proposed project including any linear facility is to be located within 20,000 feet of an airport runway that is at least 3,200 feet in actual length, or 5,000 feet of a heliport (or planned or proposed airport runway or an airport runway under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration), discuss the project's compliance with the applicable sections of the current Federal Aviation Regulation Part 77 – Objects Affecting Navigable Airspace, specifically any potential to obstruct or impede air navigation generated by the project at operation; such as, a thermal plume, a visible water vapor plume, glare, electrical interference, or surface structure height. The discussion should include a map at a scale of 1:24,000 that displays the airport or airstrip runway configuration, the proposed power plant site and related facilities.			Section 5.11.1.6 Section 5.11.5.1 Figure 5.11-2A Figure 5.11-2B						

Adequacy Issue:	Adequate		Inadequate		DATA ADEQUACY WORKSHEET		Revision No.	0	Date	
Technical Area:	Traffic and Transportation			Project:	SES Solar One			Technical Staff:		
Project Manager:				Docket:				Technical Senior:		
SITING REGULATIONS	INFORMATION			AFC SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS				
Appendix B (g) (5) (C)	An identification, on topographic maps at a scale of 1:24,000, and a description of existing and planned roads, rail lines, (including light rail), bike trails, airports, bus routes serving the project vicinity, pipelines, and canals in the Project Area affected by or serving the proposed facility. For each road identified, include the following information, where applicable:			Figure 5.11-2A Figure 5.11-2B						
Appendix B (g) (5) (C) (i)	Road classification and design capacity;			Section 5.11.1.7 Figure 5.11-2A Figure 5.11-2B						
Appendix B (g) (5) (C) (ii)	Current daily average and peak traffic counts;			Section 5.11.1.8 Appendix BB, Traffic Counts Figure 5.11-2A Figure 5.11-2B Figure 5.11-4						
Appendix B (g) (5) (C) (iii)	Current and projected levels of service before project development, during construction, and during project operation;			Section 5.11.1.8 Section 5.11.2.5 Figure 5.11-2A Figure 5.11-2B						
Appendix B (g) (5) (C) (iv)	Weight and load limitations;			Section 5.11.5.2						
Appendix B (g) (5) (C) (v)	Estimated percentage of current traffic flows for passenger vehicles and trucks; and			Section 5.11.1.8 Figure 5.11-2A Figure 5.11-2B						
Appendix B (g) (5) (C) (vi)	An identification of any road features affecting public safety.			Section 5.11.1.2						

Adequacy Issue:	Adequate		Inadequate		DATA ADEQUACY WORKSHEET		Revision No.	0	Date	
Technical Area:	Traffic and Transportation			Project:	SES Solar One			Technical Staff:		
Project Manager:				Docket:				Technical Senior:		
SITING REGULATIONS	INFORMATION			AFC SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS				
Appendix B (g) (5) (D)	An assessment of the construction and operation impacts of the proposed project on the transportation facilities identified in subsection (g)(5)(C). Also include anticipated project-specific traffic, estimated changes to daily average and peak traffic counts, levels of service, and traffic/truck mix, and the impact of construction of any facilities identified in subsection (g)(5)(C).			Section 5.11.2.5 through Section 5.11.2.6						
Appendix B (g) (5) (E)	A discussion of project-related hazardous materials to be transported to or from the project during construction and operation of the project, including the types, estimated quantities, estimated number of trips, anticipated routes, means of transportation, and any transportation hazards associated with such transport.			Section 5.11.2.5 Section 5.11.4 Section 5.11.5						
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and			Section 5.11.5						
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.			Section 5.11.5.5						

Adequacy Issue:	Adequate		Inadequate		DATA ADEQUACY WORKSHEET		Revision No.	0	Date	
Technical Area:	Traffic and Transportation			Project:	SES Solar One		Technical Staff:			
Project Manager:				Docket:			Technical Senior:			
SITING REGULATIONS	INFORMATION			AFC SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS				
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.			Section 5.11.5.4						
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.			Section 5.11.5.5						





LEGEND

- R1 FWY** **I-40**
4-Lane Interstate Freeway Facility south of project site. Existing ADT= 15,600. Existing LOS = B, project construction LOS = B, project operations LOS = B, Trucks = 43%.
- R2 COL** **National Trails Highway**
2-Lane collector road, south of the project. Existing ADT = 28 vehicles per day. Existing LOS = A, project construction LOS = A, project operations LOS = A.
- R3 COL** **Hector Road**
2-Lane local road, located southwest of the project. Existing ADT = 31 vehicles per day. Existing LOS = A, project construction LOS = A, project operations LOS = A.
- R4 LOC** **BLM Access Road**
2-Lane local road proposed to be built to facilitate project construction traffic. Project construction LOS = A.
- Project Boundary**
N.A.P. (Not a Part)
- Proposed Transmission Line (1.86 miles)**
- Proposed Construction Staging Area**
- Permanent Access Road**
- I-40 Temporary Construction Access Road**
- Existing Transmission Line**
- 7.5 Minute USGS Quad Index**
- BNSF Railroad**

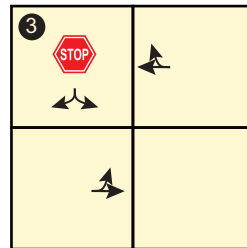
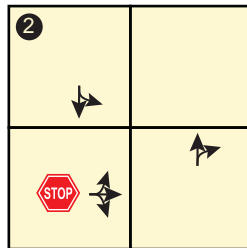
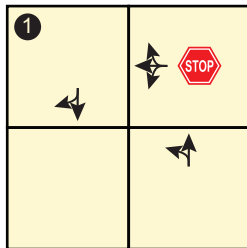
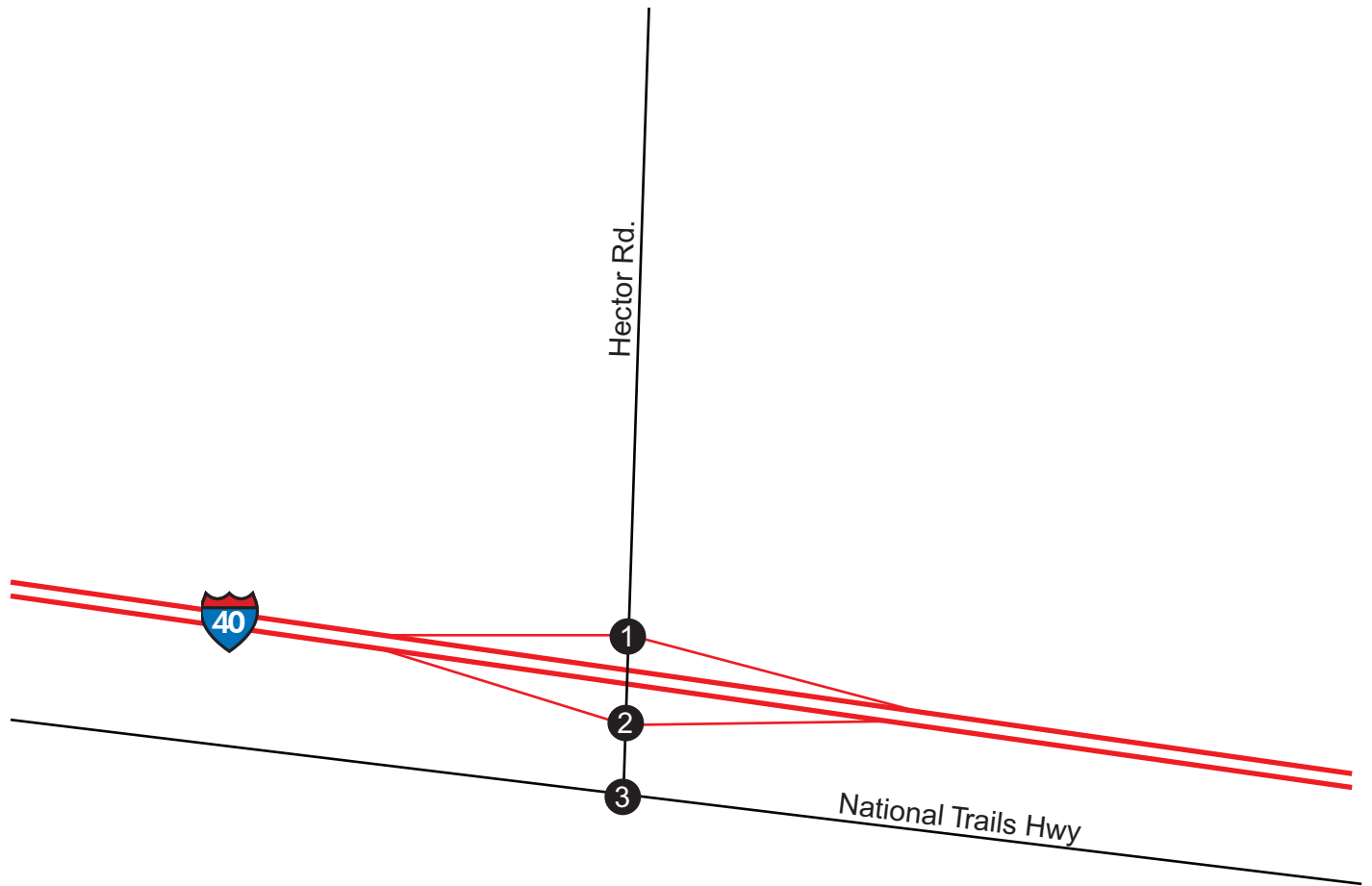
SOURCES:
Stantec Engineering (project site Oct. 2008);
TIGER (railroad 2000);
USGS 7.5' quads various dates);
URS (I-40 access rd and transportation settings).

TRANSPORTATION SETTING OF THE LOCAL PROJECT AREA AND AFFECTED ROADWAYS
MAP 2 OF 2
SOLAR ONE PROJECT

1000 0 1000 2000 Feet
SCALE: 1" = 2000' (1:24,000)
SCALE CORRECT WHEN PRINTED AT 11X17



CREATED BY: LG **DATE:** 11-13-08 **FIG. NO.:** 5.11-2B
PM: WM **PROJ. NO:** 27658181.10000

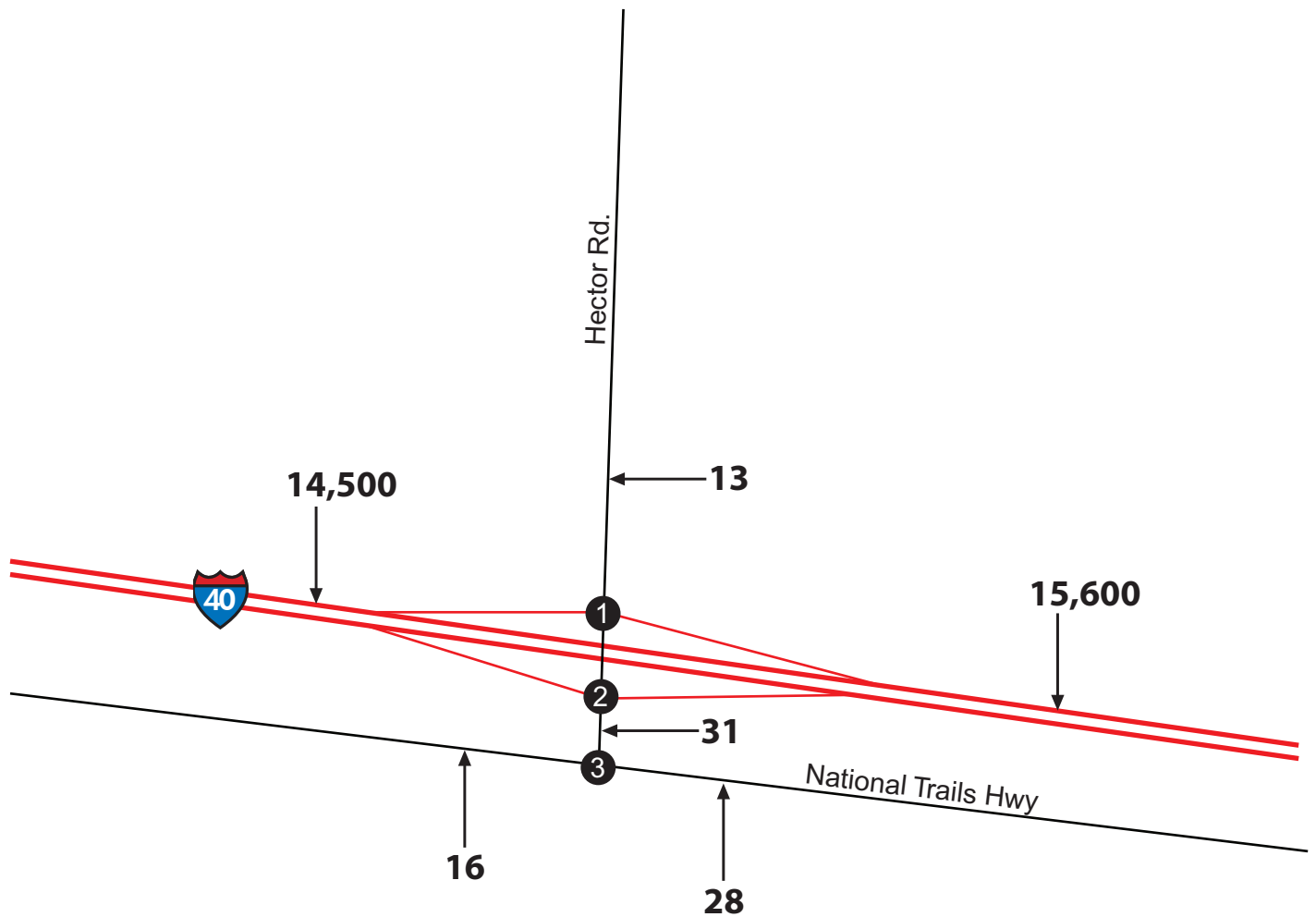
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LEGEND

 Stop Sign

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	Not to Scale	CREATED BY: SV	DATE: 11-03-08	FIG. NO: 5.11-3
		PM: WM	PROJ. NO: 27658181.10000	



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	<div> <div>5/1</div> <div>0/0</div> <div>2/0</div> </div> <div> <div>0/5</div> <div>1/1</div> </div>

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LEGEND

3/5 = $\frac{\text{AM/Peak hour Volumes}}{\text{PM/Peak hour Volumes}}$

31 = Average Daily Traffic Volumes



URS

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EXISTING TRAFFIC VOLUMES SOLAR ONE PROJECT

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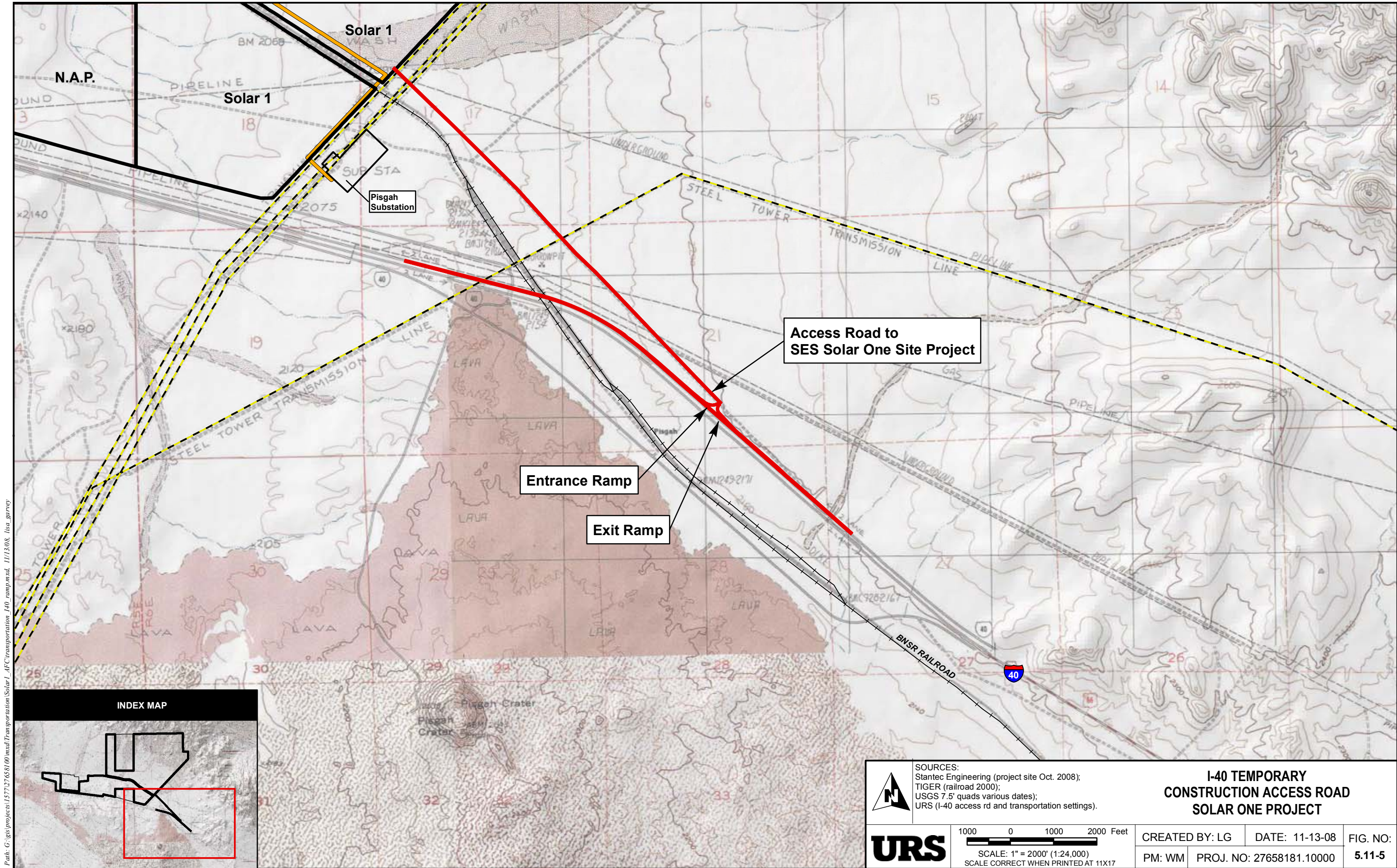
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5.11-4



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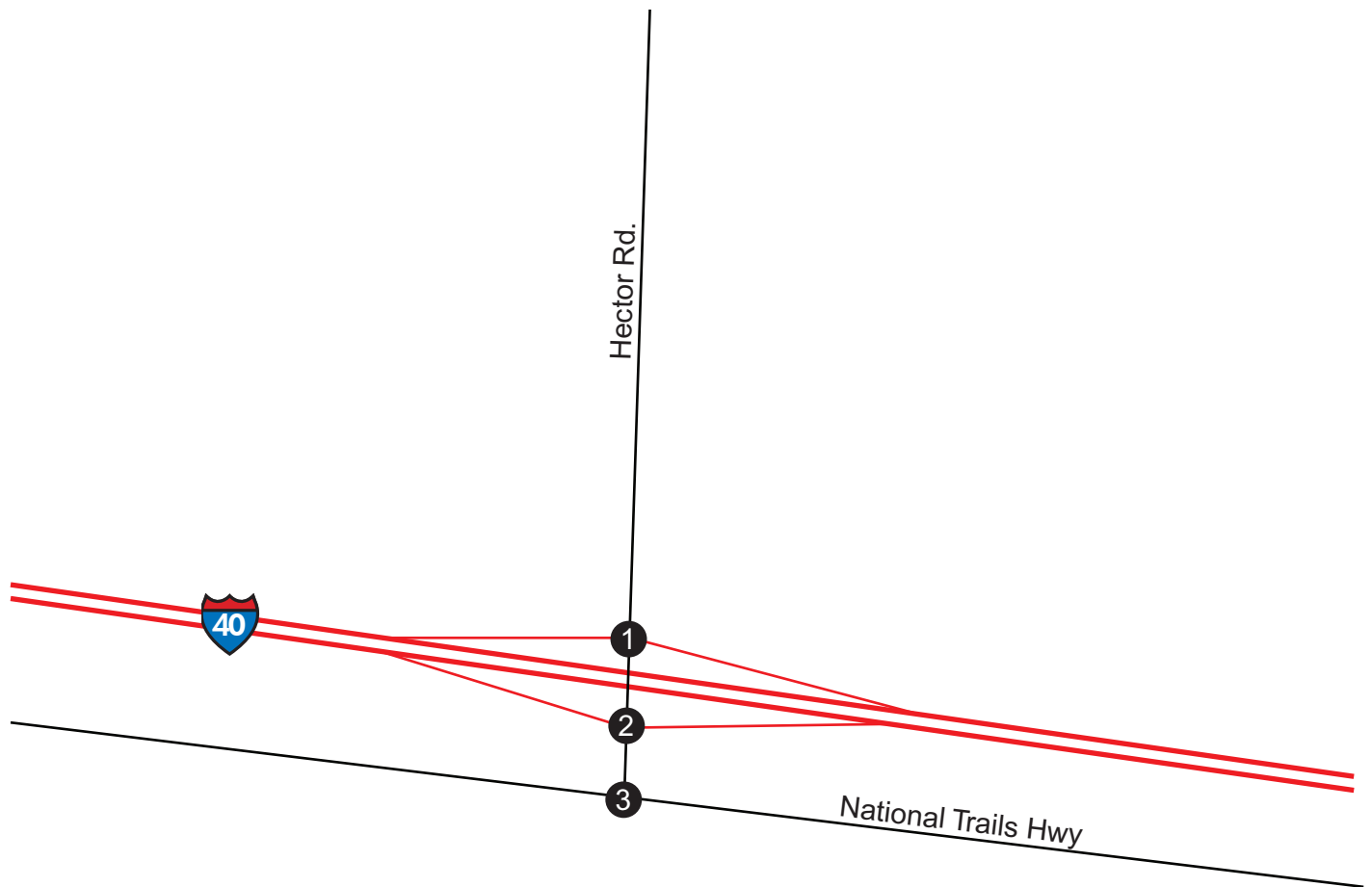
SOURCES:
Stantec Engineering (project site Oct. 2008);
TIGER (railroad 2000);
USGS 7.5' quads various dates;
URS (I-40 access rd and transportation settings).



1000 0 1000 2000 Feet
SCALE: 1" = 2000' (1:24,000)
SCALE CORRECT WHEN PRINTED AT 11X17

**I-40 TEMPORARY
CONSTRUCTION ACCESS ROAD
SOLAR ONE PROJECT**

CREATED BY: LG	DATE: 11-13-08	FIG. NO:
PM: WM	PROJ. NO: 27658181.10000	5.11-5



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2	<div> <div>5/5</div> <div>5/5</div> </div>	
<div> <div>10/5</div> <div>5/5</div> <div>5/5</div> </div>	<div> <div>5/10</div> <div>5/5</div> </div>	

3	<div> <div>5/5</div> <div>5/5</div> </div>	<div> <div>5/10</div> <div>5/5</div> </div>
<div> <div>5/5</div> <div>5/5</div> </div>	<div> <div>5/5</div> <div>5/5</div> </div>	

LEGEND

3/5 = $\frac{\text{AM/Peak hour Volumes}}{\text{PM/Peak hour Volumes}}$

31 = Average Daily Traffic Volumes

Note:
Numbers
rounded to the
nearest five.



URS

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Scale

**2011 NO PROJECT TRAFFIC VOLUMES
SOLAR ONE PROJECT**

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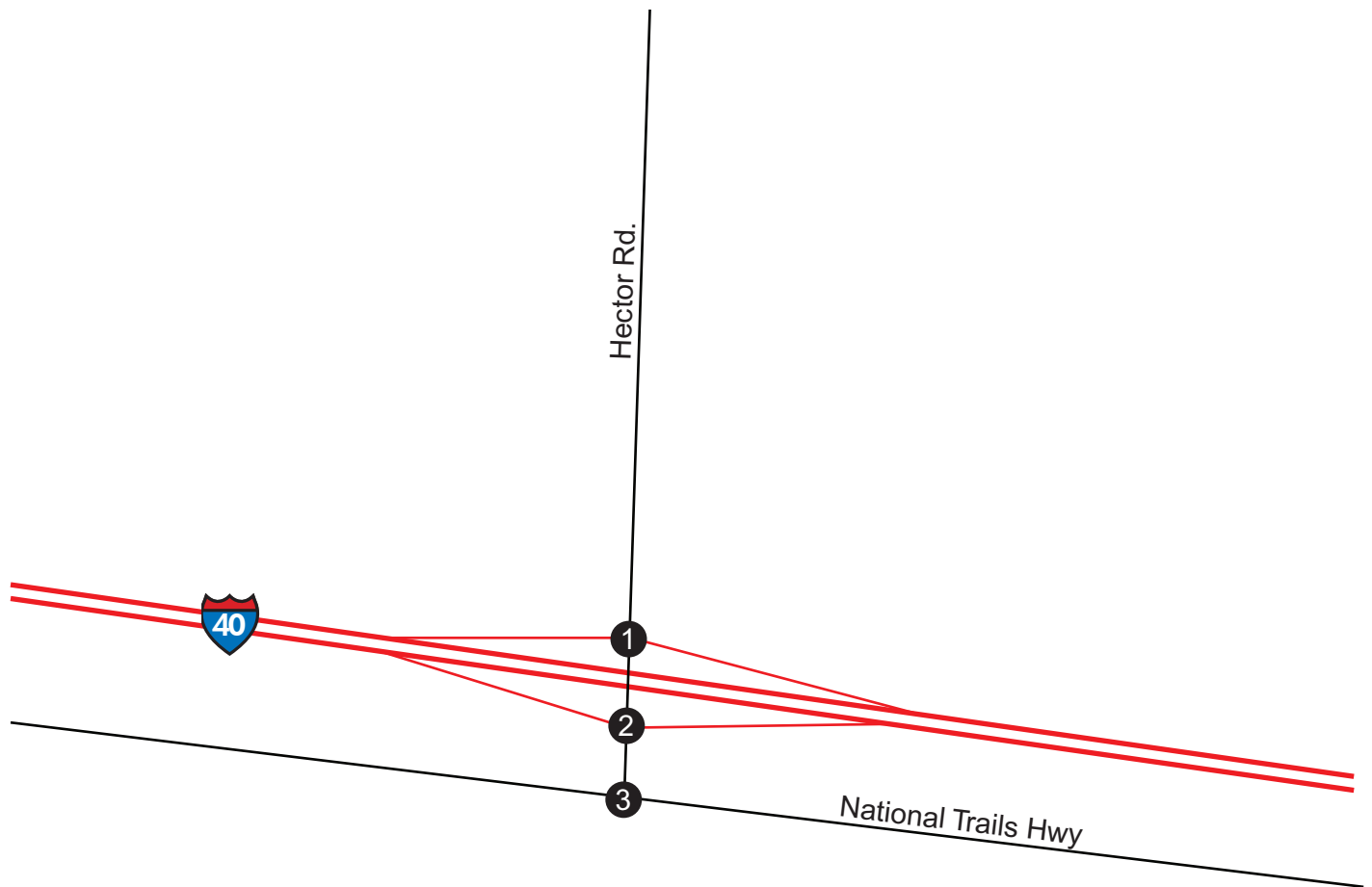
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FIG. NO:

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5.11-6



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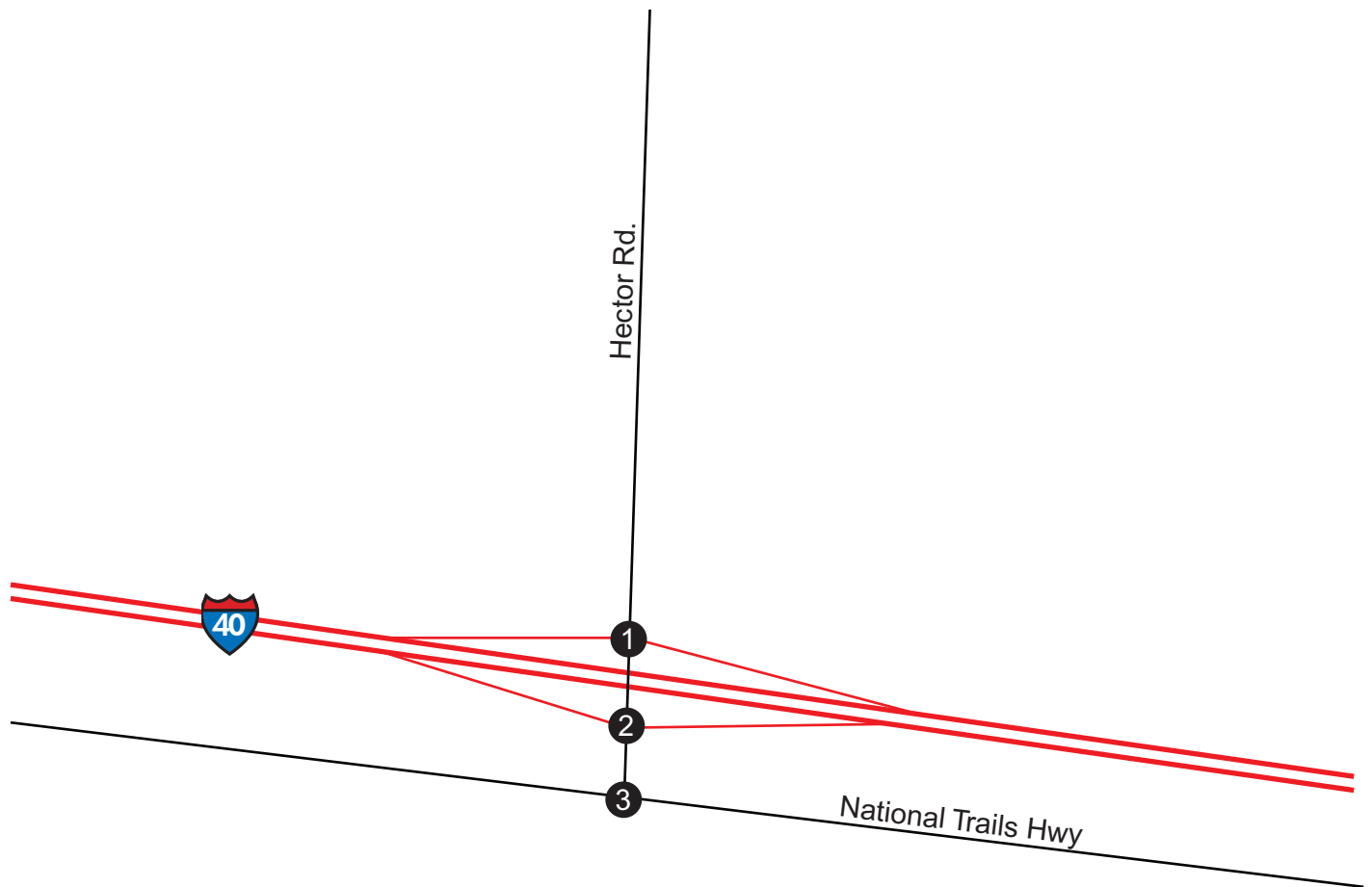
LEGEND

3/5 = AM/Peak hour Volumes
PM/Peak hour Volumes

31 = Average Daily Traffic Volumes

Note:
Numbers
rounded to the
nearest five.

		2011 NO PROJECT PLUS PROJECT CONSTRUCTION TRAFFIC VOLUMES SOLAR ONE PROJECT		
	Not to Scale	CREATED BY: SV	DATE: 11-03-08	FIG. NO: 5.11-7
		PM: WM	PROJ. NO: 27658181.10000	



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2	<div> <div>5/5</div> <div>5/5</div> </div>	
<div> <div>10/5</div> <div>5/5</div> <div>5/5</div> </div>	<div> <div>5/10</div> <div>5/5</div> </div>	

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<div> <div>5/5</div> <div>5/5</div> </div>	<div> <div>5/5</div> <div>5/5</div> </div>	

LEGEND

3/5 = $\frac{\text{AM/Peak hour Volumes}}{\text{PM/Peak hour Volumes}}$

31 = Average Daily Traffic Volumes

Note:
Numbers
rounded to the
nearest five.



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**2014 NO PROJECT TRAFFIC VOLUMES
SOLAR ONE PROJECT**

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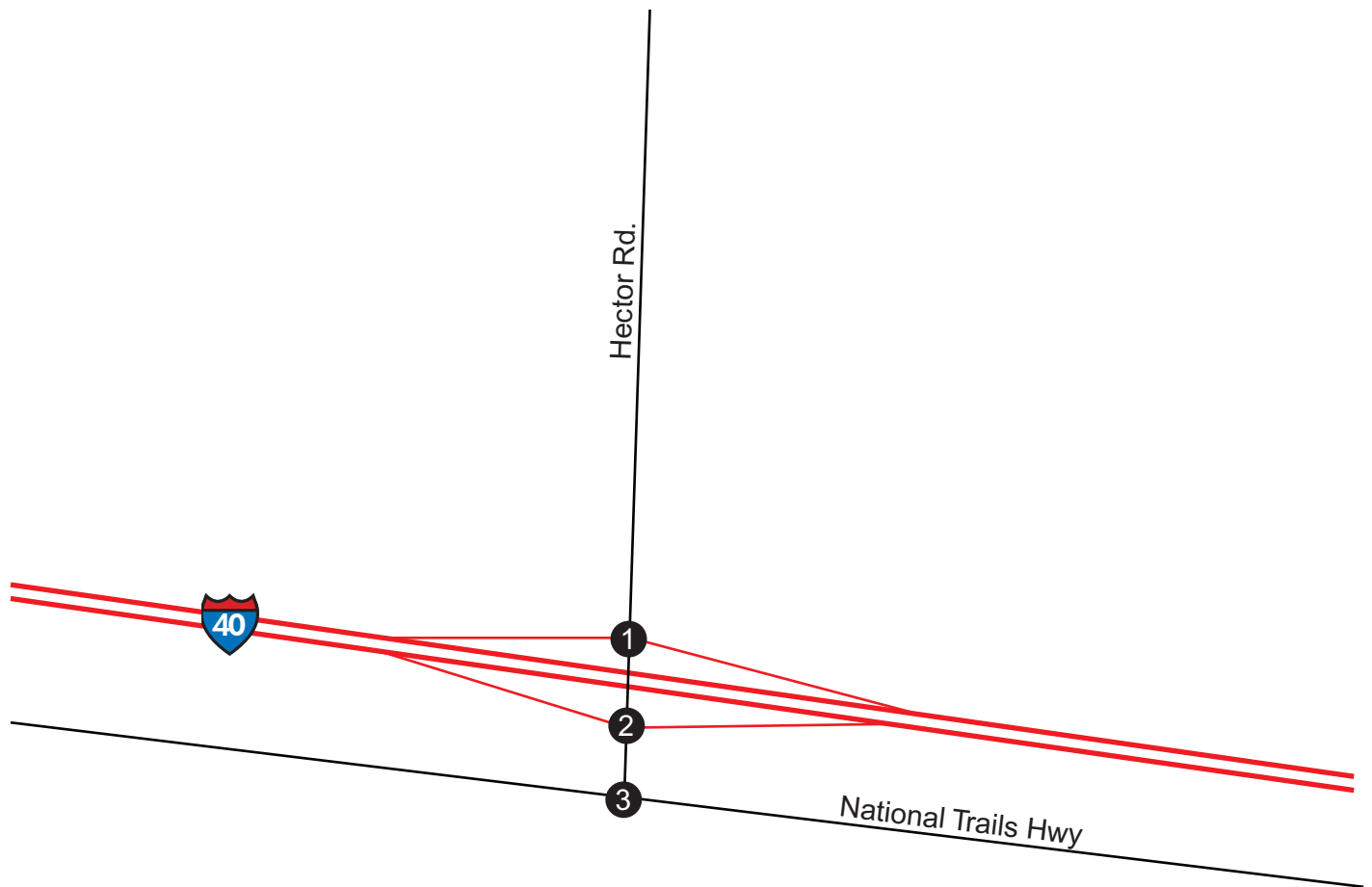
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5.11-8



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3	<div> <div>5/5</div> <div>5/5</div> <div>↩</div> <div>↪</div> </div> <div> <div>5/10</div> <div>5/5</div> <div>↩</div> <div>↪</div> </div>
	<div> <div>5/5</div> <div>5/5</div> <div>↩</div> <div>↪</div> </div>

LEGEND

3/5 = AM/Peak hour Volumes
PM/Peak hour Volumes

31 = Average Daily Traffic Volumes

Note:
Numbers
rounded to the
nearest five.



URS

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Scale

**2014 NO PROJECT PLUS PROJECT
OPERATIONS TRAFFIC VOLUMES
SOLAR ONE PROJECT**

CREATED BY: SV

DATE: 11-03-08

FIG. NO:

PM: WM

PROJ. NO: 27658181.10000

5.11-9